ORDER NO. AVS9807114C8

Service Manual

Audio Mixer

WR-DA7

RAMSA

The Meter Bridge shown in photo is one of the optional accessories.

SPECIFICATIONS

General

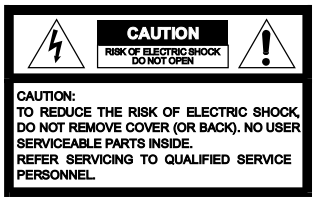
Power requirement :	AC 220 – 240 V 50 Hz
Power consumption :	105 W (with options)
Frequency response :	20 Hz - 20 kHz, +1 dB - –2 dB
T.H.D. (total harmonic distortion) :	Less than 0.1 % (input = +10 dB/1 kHz, output = +4 dB/RL 600 Ω)
Equivalent input noise :	–128 dB (Rs = 150 Ω Input sensitivity = –60 dB typical)
Residual noise :	–93 dB typical
Maximum voltage gain :	84 dB: MIC/LINE(1-16) in to BUS out 84 dB: MIC/LINE(1-16) in to MASTER out 84 dB: MIC/LINE(1-16) in to AUX out
Common Mode Rejection Ratio :	More than 80 dB (1kHz)
Crosstalk :	90 dB typical (1kHz)
Dynamic Range (Fs = 48kHz, DIN audio filter) :	
	113 dB typical : DA converter (digital in to analog out) 112 dB typical : AD converter (analog in to digital out) 110 dB typical : AD + DA (analog in to analog out)
AD Converter :	24 bit, 64 times oversampling (input 1 to 16) 20 bit, 64 times oversampling (aux returns 3 to 6)
DA Converter :	24 bit, 64 times oversampling (MASTER, MONITOR A) 24 bit, 128 times oversampling (MONITOR B) 20 bit, 128 times oversampling (aux returns 3 to 6)
Internal signal processing :	32 bit (Dynamic range 192 dB)
Sampling Frequency (Fs) :	Internal: 44.1 kHz and 48 kHz External: 44.1 kHz ± 6 % and 48 kHz ± 6 %
Signal delay :	Less than 2.5 ms, MIC/LINE input to MASTER out

Panasonic

©1998 Matsushita Communication Industrial Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that impotant literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "⚠" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards.
Do not modify the original design without permission of manufacture.

Dynamics

Compressor

Threshold :	–40 dB - 0 dB (1 dB/step)
Ratio :	1.0, 1.1, 1.3, 1.5, 1.7, 2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 8.0, 10, 20, ∞ (16 points)
Attack time :	0 ms - 250 ms (1 ms/step)
Release time :	5 ms - 2000 ms (5 ms/step)
Gain :	0 dB - +12 dB (0.5 dB/step)

Gate

Threshold :	–80 dB - –15 dB (1 dB/step)
Attack Time :	0 ms - 250 ms (1 ms/step)
Release time :	5 ms - 2000 ms (5 ms/step)

Expander

Threshold :	–80dB - –15dB (1dB/step)
Ratio :	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, ∞
Attack time :	0 ms - 250 ms (1 ms/step)
Release time :	5 ms - 2000 ms (5 ms/step)
Range :	0 dB - +40 dB (0.5 dB/step)

Equalizer

LOW band PEQ (parametric equalizer) type:	Q = 0.5 - 50 (41 steps) F = 20 Hz - 20 kHz (1/12 oct step) G = ± 15 dB (0.5 dB/step)
LOW band SHL (shelving low) type :	F = 20 Hz - 1.6 kHz (1/12 oct step) G = ± 15 dB (0.5dB/step)
LOW band HPF (high-pass) type :	F = 20 Hz - 1.6 kHz (1/12 oct step)
LOW-MID band PEQ type :	Q = 0.5 - 50 (41 steps) F = 20 Hz - 20 kHz (1/12 oct step) G = ± 15dB (0.5dB/step)
HIGH-MID band PEQ type :	Q = 0.5 - 50 (41 steps) F = 50 Hz - 20 kHz (1/12 oct step) G = ± 15 dB (0.5 dB/step)
HIGH band PEQ type :	Q = 0.5 - 50 (41 steps) F = 50 Hz - 20 kHz (1/12 oct step) G = ± 15 dB (0.5 dB/step)
HIGH band SHH (shelving high) type :	F = 1 kHz - 20 kHz (1/12 oct step) G = ± 15 dB (0.5 dB/step)
HIGH band LPF (low-pass) type:	1 kHz - 20 kHz (1/12 oct step)

Delay :	0 - 14,400 samples/0 - 300 ms (Fs = 48 kHz), 0 - 326 ms (Fs = 44.1 kHz)
Phase :	normal/reverse (switchable)
Stereo meter :	Bar graph type LED, Left and Right, 20 points for each VU or PPM (selectable), Peak hold on/off, ∞
Fader :	100 mm motor fader (x 21), +10 db - –90 dB –∞ dB
Display :	LCD, 320 x 240 dot, with backlight
Memory :	SCENE MEMORY (Snapshot) 50 registers CHANNEL library 50 registers EQUALIZER library 50 registers DYNAMICS library 50 registers AUTOMATION 4 mix
Ambient operating temperature :	0 °C - 40 °C (32 °F - 104 °F)
Dimensions (mm) :	698 (W) x 244 (H) x 549.5 (D)
Weight (without options) :	23kg (51lbs)
Finish :	ABS resin (Top Panel), Blue black
Standard Accessories :	Power Cord, Users' Guide, Warranty Card, Registration Card

Dimensions and weights indicated are approximate.
Specifications are subject to change without notice.

Analog Inputs (0 dB = 0.775 Vrms, 0 dBV = 1 Vrms)

Input Type	Source Impedance	Signal Level (Nominal-before clipping)	Connector Type
CH input 1-8 5 kΩ	mics, 50 Ω - 600 Ω	–60 dB - –46 dB	XLR 3-31 (bal)
	lines, 600 Ω	+10 dB - +24 dB	XLR 3-31 (bal)
CH input 9-16 5 kΩ	mics, 50 W - 600 Ω	–60 dB - –46 dB	TRS phone jack (bal)
	lines, 600 Ω	+10 dB - +24 dB	TRS phone jack (bal)
CH Insertion Returns 1-16 10 kΩ	lines, 600 Ω	+4 dB - +18 dB	TRS phone jack (unbal)
2TR B IN (analog) 10 kΩ	lines, 600 Ω	+4 dB - +18 dB	TRS phone jack (bal)
AUX returns 3-6 10 kΩ	lines, 600 Ω	+4 dB - +18 dB	TRS phone jack (unbal)

Analog Outputs (0 dB = 0.775 Vrms, 0 dBV = 1 Vrms)

Input Type	Output Impedance	Adapted Load Impedance	Signal Level (Nominal-before clipping)	Connector Type
MASTER L/R 5 kΩ	150 Ω	lines 600 Ω	+4 dB - +18 dB	XLR 3-32 (bal)
AUX sends 3 - 6	75 Ω	lines 10 kΩ	+4 dB - +18 dB	TRS phone jack (unbal)
INSERTION 1 - 16	10 Ω	lines 10 kΩ	+4 dB - +18 dB	TRS phone jack (unbal)
REC OUT L/R (analog)	150 Ω	lines 10 kΩ	+4 dB - +18 dB	TRS phone jack (bal)
MONITOR A out L/R	150 Ω	lines 600 Ω	+4 dB - +18 dB	TRS phone jack (bal)
MONITOR B out L/R	150 Ω	lines 600 Ω	+4 dB - +18 dB	TRS phone jack (bal)
Headphones	8 Ω	phones 40 Ω/8 Ω	400 mW/100mW	Stereo phone jack (unbal)

Digital In and Out

2TR IN (INPUT 15,16) :

In/Out :	In
Format :	IEC 958 Professional (AES/EBU) or Consumer (S/PDIF) switchable
Level :	RS-422 (AES/EBU) or 0.5 V [pp]/75 Ω (S/PDIF)
Connector :	XLR 3-31

REC OUT :

In/Out :	Out
Format :	IEC 958 Professional (AES/EBU) or Consumer (S/PDIF) switchable
Level:	RS-422 (AES/EBU) or 0.5 V[pp]/75 Ω (S/PDIF)
Connector :	XLR 3-32

AUX RETURN 1/2 :

In/Out :	In
Format :	IEC 958 Consumer (S/PDIF)
Level :	0.5 V [pp]/75 Ω
Connector :	RCA pin jack

AUX SEND 1/2 :

In/Out :	Out
Format :	IEC 958 Consumer (S/PDIF)
Level :	0.5 V [pp]/75 Ω
Connector :	RCA pin jack

WORD CLOCK IN :

In/Out :	In
Level :	TTL/75Ω switchable
Connector :	BNC

WORD CLOCK OUT/THROUGH :

In/Out :	Out
Level :	TTL/75 Ω, Pass-through (75 Ω OFF) or termination (75 Ω ON)
Connector :	BNC

MIDI IN :

In/Out :	In
Format :	MIDI
Connector :	DIN Connector 5P

MIDI OUT :

In/Out :	Out
Format :	MIDI
Connector :	DIN Connector 5P

TO PC :

In/Out :	In and Out
Connector :	Mini-DIN Connector 8P

RS422/485 :

In/Out :	In and Out
Connector :	D-sub 9P

FOOT SWITCH :

In/Out :	In
Level :	TTL level, Normally Open (Unlatch type)
Connector :	Phone jack

Optional Accessories

Meter Bridge :

Type :	Bargraph LED, 26 channels, 15 points for each
Format :	RAMSA original Level NET II
Power :	DC 7 V
Connector :	D-sub 15P

WR-ADTA (ADAT Interface card (8 in / 8 out))

Type :	ADAT (DIRECT OUT / BUS / AUX / MASTER, Input 9-32)
In/Out :	In and Out
Connector :	Optical

WR-TDIF (TDIF Card (8 in / 8 out))

Type :	TDIF (DIRECT OUT / BUS / AUX / MASTER, Input 9-32)
In/Out :	In and Out
Format :	TDIF-1
Connector :	D-sub 25P (in and out)

WR-AESS (AES/EBU Card (8 in / 8 out))

Type :	AES/EBU/SPDIF
Signal type :	RS422
Connector :	D-sub 25P (in and out)

WR-ADDA (A-D/D-A Card (8 in / 8 out))

Input 1 - 8 (balanced)	
Indicated impedance :	10kΩ
Nominal source impedance :	50Ω ~ 600Ω
Nominal input level :	+4dB (1.23V)
Maximum input level before clipping :	+18dB (6.15V)
Connector type :	D-sub 25P
Output 1 - 8 (balanced)	
Indicated impedance :	10kΩ
Nominal source impedance :	150Ω
Nominal input level :	+4dB (1.23V)
Maximum input level before clipping :	+18dB (6.15V)
Connector type :	D-sub 25P

WR-SMPT (SMPTE/V SYNC Card)

SMPTE IN	
In/Out :	In
Format :	SMPTE (LTC)
Signal type :	nominal -10dBV / 10kΩ
Connector :	XLR
V SYNC	
In/Out :	In
Format :	NTSC (B/W or color) / PAL
Signal type :	75Ω , termination
Connector :	BNC

WR-TNDM (TANDEM Card (for running two *DA7* mixers simultaneously))

Type :	TANDEM connection
In/Out :	In and Out
Format :	RAMSA SSA
Signal type :	RS422
Connector :	D-sub 25P

CONTENTS

Major Operating Controls and Their Functions 1

Self Check Procedure 13

Wiring Diagram 21

Block Diagram

Overall Block Diagram 22
Main Board (CPU Section) 23
Main Board (Panel Control CPU Section) 24
Main Board (DSP Section-1) 25
Main Board (DSP Section-2) 26
Main Board (Audio Interface Section) 27
AD/DA Board (1/2) 28
AD/DA Board (2/2) 29
Fader Drive Board (1/2) 30
Input Switch Board/Fader Drive Board (2/2) 31
HA Board and INS Board 32
Monitor VR/HP/TB Boards 33
EFX Board 34
Block Diagram 35
Level Diagram 36

Schematic Diagram

Monitor VR/HP/TB Boards 38
Bus Relay Board 39
Power-1/Power-2 Boards 41
HA Board and INS Board 44
EFX/Meter Board 45
Fader Drive Board 47
Input Switch Board 50
AD/DA Board (2/3) 52
AD/DA Board (3/3) 53
AD/DA Board (1/3) 54
Main Board (1/4) 55
Main Board (2/4) 56
Main Board (3/4) 57
Main Board (4/4) 58
WR-MTBR 59
WR-TNDM 62
WR-TDIF 63
WR-SMPT 66
WR-AESS 67
WR-ADAT 70

Conductor View

Monitor VR/HP/TB Boards 37
Bus Relay Board 40
Power-1/Power-2 Boards 42
HA Board and INS Board 43
EFX/Meter Board 46
Fader Drive Board 48
Input Switch Board 49
AD/DA Board 51
Main Board 57
WR-MTBR 60
WR-TNDM 61
WR-TDIF 64
WR-SMPT 65
WR-AESS 68
WR-ADAT 69

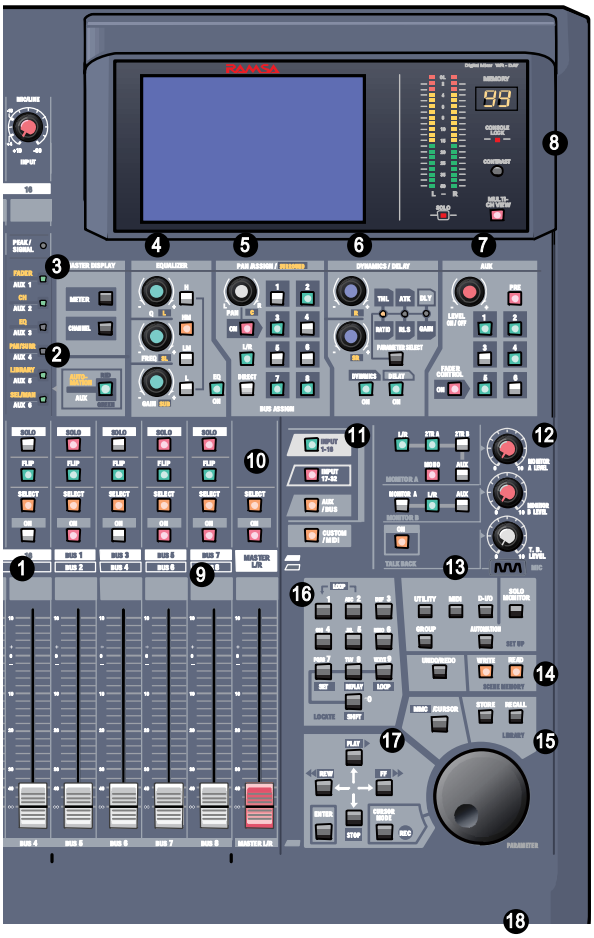
Exploded View

WR-DA7 71
WR-MTBR 72
WR-TNDM 73
WR-TDIF 74
WR-SMPT 75
WR-AESS 76
WR-ADAT 77

Replacement Parts List 78

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

Illustrated Guide



❶ **Channel Strip** – input gain controls with channel control and status indicators. Also called a Channel Fader Strip.

❷ **AUTOMATION/AUX LED** button – selects the display mode of the Channel Strip LED field indicators, and arms the AUTOMATION system.

❸ **MASTER DISPLAY** section – the METER and CHANNEL buttons are direct buttons to the respective LCD screen windows. These should be considered as "home base" for the LCD display.

❹ **EQUALIZER** section – controls for setting the equalization parameters for a selected channel.

❺ **PAN/ASSIGN/** SURROUND **, BUS ASSIGN** section – controls for setting the pan and bus assignments for a selected channel.

❻ **DYNAMICS/DELAY** section – controls for setting the onboard dynamics processing parameters for a selected channel.

❼ **AUX** section – controls for routing channels to outboard sources and for defining the signal path as either pre-fader or post-fader.

❽ **Display Bridge** – contains the LCD screen, L/R meter display, and primary mixer display status indicators.

❾ **BUS Fader Strip** – controls for output BUSes.

❿ **MASTER L/R Fader Strip** – controls for L/R MASTER output.

⓫ **Fader Layer Controls** section – selects the current fader layer to be displayed.

⓬ **MONITOR** section – volume and selection controls for monitoring.

⓭ **SETUP** section – mixer function, or display control buttons.

⓮ **SCENE MEMORY** section – buttons for writing and reading the 50 mixer scene memories.

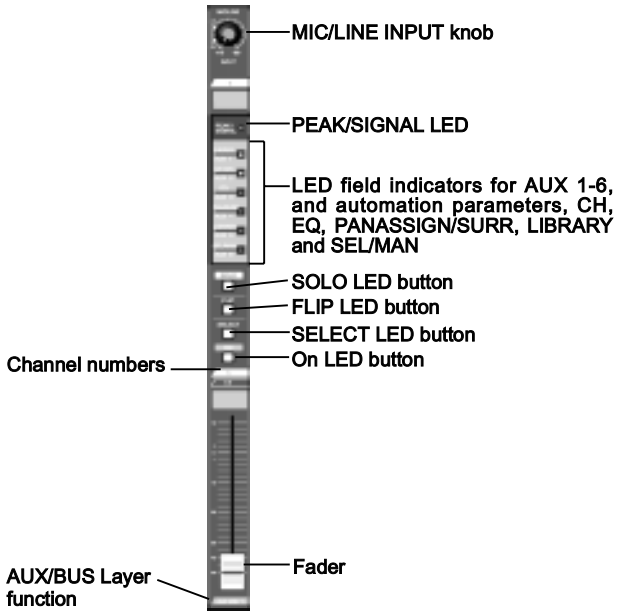
⓯ **LIBRARY** section – buttons for storing and recalling Channel, EQ and Dynamics libraries.

⓰ **Keypad** – alphanumeric keys for entering numbers or text.

⓱ **Cursor Control** section – buttons and controls for defining the cursor actions.

⓲ **Headset Control** section – the location of the headset connector and level control of the DA7 is immediately below the right front edge of the Top Panel.

❶ Channel Fader Strip



Channel Fader Strip

There are sixteen Channel Fader Strips on the *DA7*. Depending on the selection of the four **Fader Layer** controls, each strip directly controls (1) **INPUT 1-16**, (2) **INPUT 17-32**, (3) **AUX/BUS** (indicated on the bottom of the strip), and (4) a user CUSTOM/MIDI function.

The **MIC/LINE INPUT** knob varies the channel input gain volume and adjusts for either a mic or line-level input. Due to the high quality design of this circuit, there is no pad switch necessary; the input knob range sets the input level. This knob only affects the analog inputs 1-16.

The *PEAK/SIGNAL LED* indicates when an input signal is present (*green*), and when the input signal level is too high (*red*).

The LED field indicators reflect the auxiliary (**AUX**) routing assignments and automation parameters. The LED color signifies the **AUTOMATION/AUX** button selection; **AUX** (*green*), **AUTOMATION** (*red*).

The **SOLO** LED button toggles on (*red*) or off. When on, the channel output will be routed to the **MONITOR A** speakers (overriding the **MONITOR A** input), and to the headphones.

The **FLIP** LED button flips the control of the **Channel Fader Strip** from one input layer to the other. The LED color indicates the current input selection and matches the **Fader Layer** control LED button colors, **INPUTS 1-16** (*green*) or **INPUTS 17-32** (*red*).

The **SELECT** LED button, when on (*orange*), identifies the channel as the current channel selected. Only one **Fader Strip** can be selected at a time (unless it's in stereo or link mode).

For more detail, see **Chapter 5, Channel, Library, and Meter Windows** in the Users' Guide.

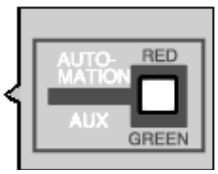
The **ON** LED button toggles on (*red*) and off. When on, the channel output is active.

There are two channel numbers for each strip, indicating the **INPUT** connections on the Rear Panel of the *DA7*.

The **AUX/BUS** label at the bottom of a **Channel Fader Strip** indicates its function when the **AUX/BUS Fader Layer** control is selected.

See **Chapter 6, Fader Layers and Channel Strips** in the Users' Guide for additional information.

❷ AUTOMATION/AUX LED Button

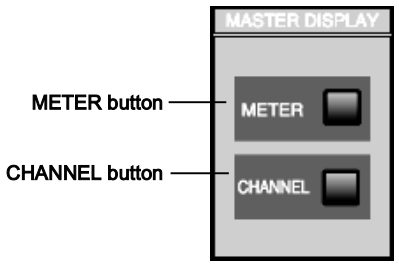


AUTOMATION/AUX LED Button

The **AUTOMATION/AUX** LED button toggles the display of the **Channel Fader Strips** LED field indicators. The LED color indicates the current selection.

See **Chapter 14, Automation** and **Chapter 10, AUX** in the Users' Guide for additional information.

❸ MASTER DISPLAY Section



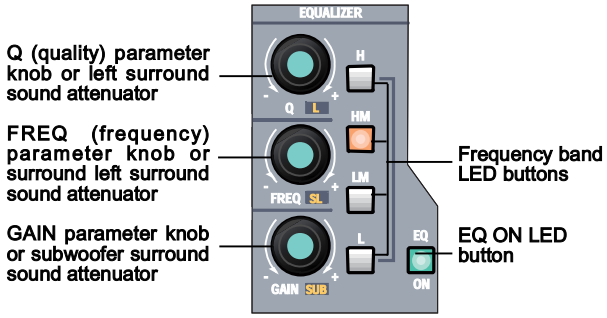
MASTER DISPLAY Section

Pressing the **METER** button will display the **[METER]** window group on the LCD screen in the **Display Bridge**. Pressing the **METER** button again will cycle the three window selections: **[METER INPUTS 1-32]**, **[BUS/AUX]**, **[SLOT]**.

Pressing the **CHANNEL** button will display the **[CHANNEL]** window group on the LCD screen in the **Display Bridge**. The window displayed will show the current mixer strip selected.

See **Chapter 5, Channel, Library, and Meter Windows** in the Users' Guide for additional information.

❹ EQUALIZER Section



EQUALIZER Section

There are three parameter knobs and four frequency range LED buttons in the **EQUALIZER** section, which are used to change the EQ settings of the currently selected channel. The **EQ ON** LED button toggles the **EQUALIZER** on (green) and off. When the controls are active, adjustments can be made to the currently selected channel.

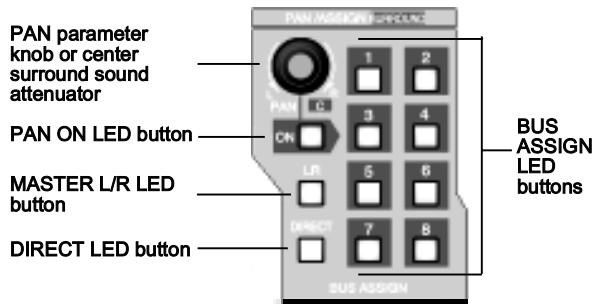
The three knobs are labeled **Q** (quality), **FREQ** (frequency), and **GAIN** (gain). The additional labeling of **L** (left), **SL** (surround left), and **SUB** (surround subwoofer) indicate the surround sound parameters that are controlled by the knobs when the **[SURROUND]** mixing area is activated. Surround sound capabilities are discussed in **Chapter 8**.

The four frequency band LED buttons can be selected one at a time, and turn on (*orange*) to show which band is operating. They are labeled **H** (high), **HM** (high-mid), **LM** (low-mid), and **L** (low).

Pressing the **GAIN** knob displays the **[EQUALIZER]** window on the LCD screen. Once the **[EQUALIZER]** is displayed in the LCD window, these buttons perform other shortcut functions.

The **EQUALIZER** section is detailed in **Chapter 7** in the Users' Guide.

❺ PAN/ASSIGN/SURROUND, BUS ASSIGN Section



PAN/ASSIGN/SURROUND, BUS ASSIGN Section

Pan, bus assignment, and surround sound parameters for the selected channel is set within this area. The pan control is always active for the **L/R** bus, so you do not need to activate the **ON** button to pan across the Master **L/R** out. However, if you wish to pan between odd/even buses, you must push the **ON** button. Assignment to the **DIRECT** output is not affected by the pan control.

The additional labeling of **C** (center) indicates the surround sound parameter that is controlled by the knob when the **[SURROUND]** mixing area is activated.

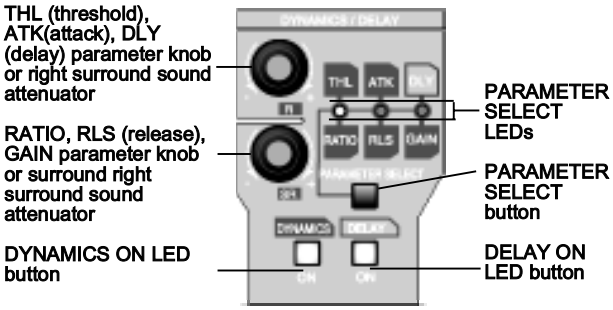
The **L/R**, the **DIRECT**, and the **BUS ASSIGN** LED buttons toggle on (*green*) and off. In addition to the eight bus selections, labeled 1 - 8, selections for **L/R** (master L/R) output and **DIRECT** output are available. The **DIRECT** output works in conjunction with the option cards installed in the *DA7* Rear Panel, routing signals directly to the cards.

The **DIRECT** output is detailed in **Chapter 12, D-I/O** (Digital Input/Output) in the Users' Guide.

Pressing the **PAN** knob displays the **[SURROUND]** window on the LCD screen.

The **PAN/ASSIGN/SURROUND**, **BUS ASSIGN** section of the Top Panel is detailed in **Chapter 8** in the Users' Guide.

❻ DYNAMICS/DELAY Section



DYNAMICS/DELAY Section

DYNAMICS and/or **DELAY** processing can be added to each of the *DA7* **Channels**. Pressing the **PARAMETER SELECT** button cycles the current parameter selections, which are grouped in pairs. The top knob adjusts the top parameter selection in the pair, and the bottom knob adjusts the bottom parameter selection in the pair. The **DYNAMICS ON** LED button toggles the dynamics processing on (*green*) and off for the selected channel, and the **DELAY ON** LED button toggles the delay on (*green*) and off.

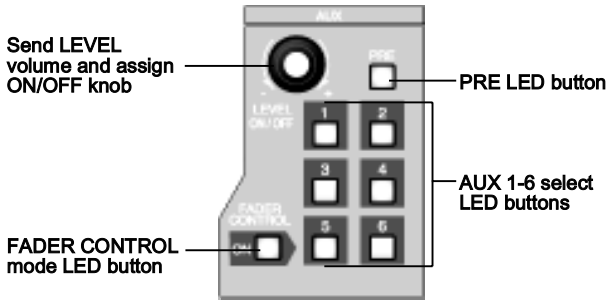
The additional labeling of **R** (right) and **SR** (surround right) indicates the surround sound parameters that are controlled by the knobs when the **[SURROUND SOUND]** mixing area is activated. The surround sound function is activated in the **[SURROUND]** window of the **[SURROUND]** window group.

See **Chapter 8** in the Users' Guide for more information on surround sound.

Pressing the bottom knob displays the **[DYNAMICS]** window group on the LCD screen.

For more information on the **DYNAMICS/DELAY** section of the Top Panel, see **Chapter 9** in the Users' Guide.

❼ AUX Section



AUX Section

This section of the Top Panel contains controls for routing selected channels from/to outboard sources. These six aux routes are independent of the channel input connecters on the Rear Panel of the *DA7* and greatly expand the flexibility of the mixer. They can be used as six mono sends, or in stereo pairs (such as 1&2, 3&4, 5&6), and six mono returns or stereo pairs. There are two digital aux routes, **AUX 1/2**, and four analog aux routes, **AUX 3/4** and **AUX 5/6**. These are paired for convenience on the Rear Panel connectors. If you wish to use them as Mono channels, connect a standard audio "Y" cable (available at your dealer) to split the audio channels.

With a channel selected, press an **AUX 1-6** LED button (green) to select which aux route you wish to assign for the channel. The **LEVEL** knob performs two functions. By pressing the knob, you will assign the channel to the selected aux route, and by turning the knob, you can adjust the individual channel output to the aux selection. The LED field of the **Channel Fader Strips** will reflect the aux assignments for the channels.

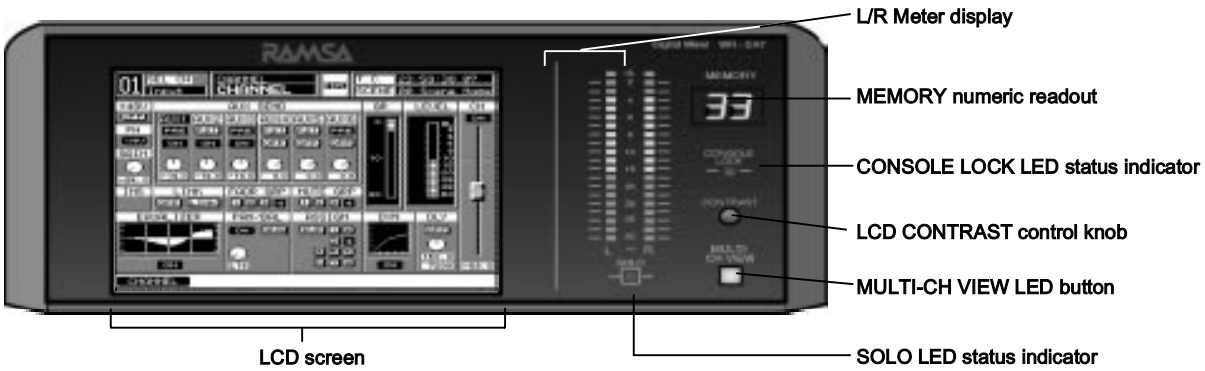
Aux routing is defaulted to a post-fader condition for the selected channel. Press the **PRE** LED button to select it (*red*) and change the aux routing function to a pre-fader condition.

Press the **FADER CONTROL** LED button to select it (red) and display the **[FADER CONTROL]** window group on the LCD screen. The window displayed will be determined by the current **AUX 1-6** LED button selection. The channel fader status of the 32 input channels for the aux selected will be reflected in the **[FADER CONTROL]** window, and the **Channel Faders** will reset to their respective level positions for the aux selected.

The **AUX/BUS** designations at the bottom of the **Channel Fader Strips** identify the strip functions when the **Fader Layer AUX/BUS** LED button is pressed.

For more information on the **AUX** section of the Top Panel see **Chapter 10** in the Users' Guide.

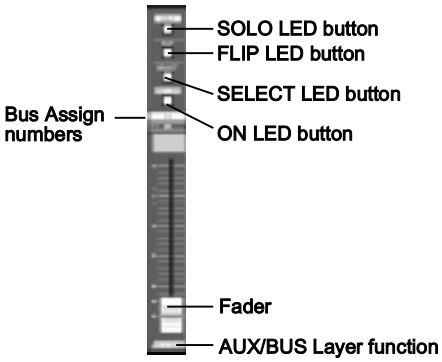
❽ Display Bridge



Display Bridge Section

The **Display Bridge** contains the information for the current status of the *DA7* and the LCD screen. The various windows for the functions and features of the mixer are displayed on the LCD screen.

❾ BUS Fader Strip



BUS Fader Strip

There are four **BUS Fader Strips** on the *DA7*. In conjunction with the **Fader Layer** controls, each strip directly controls the **BUS** outputs, or the **AUX/BUS** functions which are indicated on the bottom of the strip or a user **CUSTOM/MIDI** function.

The **SOLO** LED button toggles on *(red)* or off. When on, the selected bus output will be routed to the **MONITOR A** speakers and headphones, overriding the previous input.

There are two bus numbers for each strip, indicating the **BUS ASSIGN** selections that can be controlled by the strip.

The **FLIP** LED button flips the **BUS Fader Strip** from controlling one bus to controlling the other bus for the strip. The LED color *(red* or *green)* indicates the current bus selection.

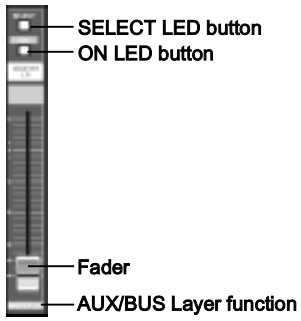
The **SELECT** LED button, when on *(orange)*, identifies the bus strip as the current bus strip selected. Only one **BUS Fader Strip** can be selected at a time unless they are paired for **LINK** or **STEREO** operation.

The **ON** LED button toggles on *(red)* and off. When on, the bus output is active.

The **AUX/BUS** indication at the bottom of the **BUS Fader Strip** indicates the strip function when the **AUX/BUS Fader Layer** control is selected.

See **Chapter 6, Fader Layers and Channel Strips** in the Users' Guide for additional information.

❿ MASTER L/R Fader Strip



MASTER L/R Fader Strip

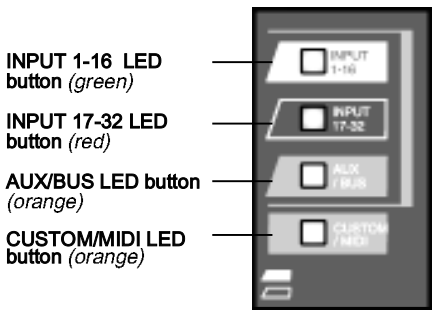
The **MASTER L/R Fader Strip** controls the *DA7* master **L/R** output.

The **SELECT** LED button, when on *(orange)*, identifies the strip as the current fader strip selection.

The **ON** LED button toggles on *(red)* and off. When on, the master output is active.

See **Chapter 6, Fader Layers and Channel Strips** in the Users' Guide for additional information.

⓫ Fader Layer Controls Section



Fader Layer Controls Section

The **Fader Layer** controls significantly expand the flexibility of the *DA7* mixer. The LED button selections define the current function for the fader strips.

LED buttons for the Fader Layer controls assist you in determining or checking the current channel and bus fader settings on the mixer.

INPUT 1-16, when selected *(green)*, resets the fader strips to control channel inputs 1 through 16, and buses 1, 3, 5, and 7. When selected, the faders move to the positions reflecting the current settings for the layer, unless previously flipped. To reset a flipped **Channel Fader Strip**, press the **FLIP** button. To reset all the currently flipped **Channel Fader Strips**, press the **INPUT 1-16 Fader Layer** control button and hold it or two seconds. This will set all faders to the selected layer.

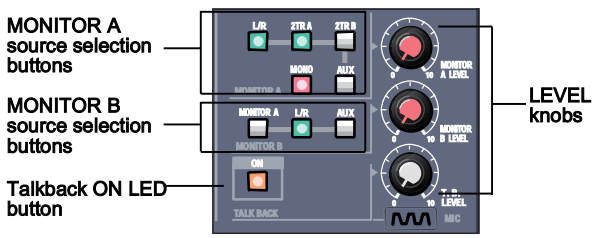
INPUT 17-32, when selected *(red)*, resets the fader strips to control channel inputs 17 through 32, and buses 2, 4, 6, and 8. When selected, the faders move to the positions reflecting the current settings for the layer, unless previously flipped. To reset a flipped **Channel Fader Strip**, press the **FLIP** button. To reset all the currently flipped **Channel Fader Strips**, press the **INPUT 17-32 Fader Layer** control button and hold it for two seconds. This will set all faders to the selected layer.

AUX/BUS, when selected *(orange)*, resets the fader strips to control the aux sends, aux returns, and bus outputs, while the faders move to the positions reflecting the current fader settings for the layer.

CUSTOM/MIDI is a user-definable **Fader Layer** control, where the functions are selectable.

See **Chapter 11, MIDI** for more information on the *DA7* MIDI feature, and **Chapter 6, Fader Layers and Channel Strips** in the Users' Guide for additional information.

⑫ MONITOR Section



MONITOR Section

The *DA7* provides controls for two monitor outputs and a talkback circuit. There are source selection LED buttons for the **MONITOR A** and **MONITOR B** outputs, and **LEVEL** knobs for both of the monitor outputs and the talkback circuit.

MONITOR A Controls

The **MONITOR A** selection LED buttons route the input selected *(green)* to the **MONITOR A OUTPUT (CR)** (Control Room) connections on the Rear Panel of the mixer and to the headphones. The selections are:

- **L/R** routes the **MASTER L/R** output to the monitors.
- **2TR A** routes the device that is connected to **2TR A IN** on the Rear Panel to the monitors.
- **2TR B** routes the device that is connected to **2TR B IN** on the Rear Panel to the monitors.
- **AUX** routes the **AUX SEND** outputs to the monitors. Press the **AUX** LED button to monitor the selections, beginning with **AUX SEND 1/2**, followed by **AUX SEND 3/4**, and **AUX SEND 5/6**. The **MEMORY** numeric readout on the **Display Bridge** will momentarily display the **AUX SEND** selections.

The **MONO** button, when on *(red)*, sums the selected input and sends a monaural signal to the monitors. This will not affect the **2TR B** output stereo signal.

MONITOR B Controls

The **MONITOR B** selection LED buttons route the input selected *(green)* to the **MONITOR B OUTPUT (STUDIO)** connections on the Rear Panel of the mixer. The selections are:

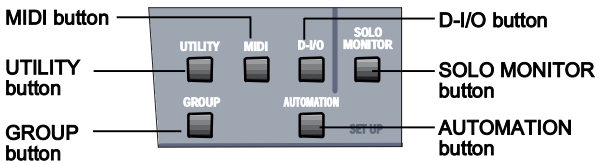
- **MONITOR A** routes the current **MONITOR A** selection to the studio monitors.
- **AUX** routes the **AUX SEND** outputs to the monitors. Press the **AUX** LED button to monitor the selections beginning with **AUX SEND 1/2**, followed by **AUX SEND 3/4**, and **AUX SEND 5/6**. The **MEMORY** numeric readout on the **Display Bridge** will momentarily display the **AUX SEND** selections.

TALKBACK

The **TALKBACK ON** button controls the talkback microphone installed in the Top Panel of the *DA7*. When on *(orange)*, the MIC is active and the **MONITOR A** speakers will be dimmed. This can be either a "push-to-talk" momentary interrupt type button, or a "push on/push off" type button. This is selected in the **[UTILITY]** window. Talkback routing is selected in the **[SOLO MONITOR]** window. There is also a phone jack on the Rear Panel that allows for remote Talk back operation.

For additional information on the talkback, see **Chapter 16, Utility and Solo monitor** in the Users' Guide.

⑬ SETUP Section



SETUP Section

These are direct-action buttons that will display the selected windows in the LCD screen of the **Display Bridge**.

UTILITY Button

Pressing the **UTILITY** button will display the **[UTILITY]** window group on the LCD screen in the **Display Bridge**. The window displayed will be determined by the window selection buttons at the bottom of the window. Pressing the **UTILITY** button again will cycle the window selections: **[OSC_BATT]**, **[CONFIGuration]**, **[USER CuSToM]**.

See **Chapter 16, Utility and Solo Monitor** in the Users' Guide for additional information.

MIDI Button

Pressing the **MIDI** button will display the **[MIDI]** window group on the LCD screen in the **Display Bridge**. Pressing the **MIDI** button again will cycle the window selections: **[SETUP]**, **[PRoGram ASsiGN]**, **[ConTRoL ASsiGN]**, **[BULK]**, **[REMOTE]**.

See **Chapter 11, MIDI** for additional information.

D-I/O Button

Pressing the **D-I/O** button will display the **[D-I/O]** (Digital Input/Output) window group on the LCD screen in the **Display Bridge**. Pressing the **D-I/O** button again will cycle the window selections: **[INPUT SET]**, **[TO SLOT]**, **[DITHER]**.

See **Chapter 12, D-I/O** for additional information.

GROUP Button

Pressing the **GROUP** button will display the **[GROUP]** window selections on the LCD screen in the **Display Bridge**. Pressing the **GROUP** button again will cycle the window selections: **[FADER GRouP]**, **[MUTE GRouP]**, **[LINK/STR]**.

See **Chapter 13, Group** for additional information.

AUTOMATION Button

Pressing the **AUTOMATION** button will display the **[AUTOMATION]** window group on the LCD screen in the **Display Bridge**. Pressing the **AUTOMATION** button again will cycle the window selections: **[SETUP]**, **[EXECUTE]**, **[EVenT EDIT]** .

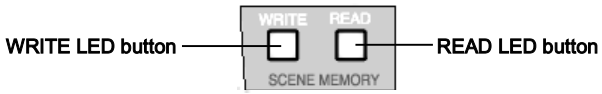
See **Chapter 14, Automation** for more information.

SOLO MONITOR Button

This button displays Solo Monitor mode, Talk back assignment and Surround Monitor.

See **Chapter 16, Utility and Solo Monitor** in the Users' Guide for additional information.

⑭ SCENE MEMORY Section



SCENE MEMORY Section

SCENE MEMORY allows you to store and recall complete mixer setups and functions. There are fifty registers, numbered 01 through 50, available for storage of mixer settings. Memory 00 is reserved for Automation.

Press either the **WRITE** LED button or the **READ** LED button *(orange)* to select it and display the **[ReaD/WriTe]** window of the **[SCENE MEMORY]** window group on the LCD screen of the **Display Bridge**.

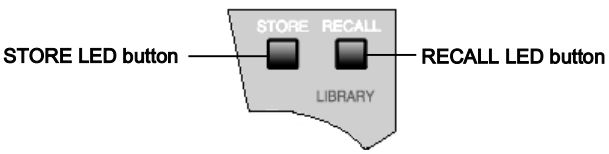
There are two windows in the group: **[RD/WT]**, **[XFADE]**. The **[RD/WT]** window is always the initial window displayed when either button is selected. To change to the **[XFADE]** window, use the **ARROW** buttons to navigate to the respective window selection button and then press the **ENTER** button, or press either the **WRITE** or **READ** LED buttons a second time.

When the **[RD/WT]** window is displayed, the **JogDial** is enabled to scroll the **[SCENE MEMORY]** list area of the window. This allows you to quickly access a previously stored scene, locate an empty scene memory, or locate a scene memory to be overwritten. By pressing the **ENTER** button after a scene has been located, the mixer will immediately assume the setting for the stored scene.

The **MEMORY** readout display will flash the memory number that is selected until it is recalled. The selected memory will be displayed without flashing once it has been recalled.

While the **[RD/WT]** window is displayed, pressing the **ENTER** button will immediately overwrite the current scene memory with the settings on the mixer at the moment the **ENTER** button is pressed, unless the register is write-protected. See **Chapter 15, Scene Memory** in the Users' Guide for additional information.

⑮ LIBRARY Section



LIBRARY Section

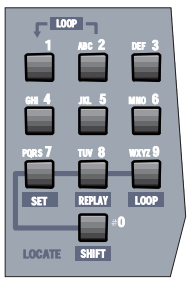
There are three mixer functions with associated libraries: **CHANNEL**, **EQUALIZER**, **DYNAMICS/DELAY**. The library feature allows you to store and recall individual function parameters to a separate library. There are fifty registers for each library, numbered 01 through 50.

The **RECALL** button opens the library window for the selected function. What this means is that if the **[CHANNEL]** window was displayed when you pressed the **RECALL** button, the **CHANNEL** library will be displayed. The same goes for the **EQUALIZER AND DYNAMICS/DELAY** libraries. Once selected, the parameter knob will allow you to scroll through the stored memories. After you have chosen a memory, press the **RECALL** button again and the selected memory will be recalled to the currently selected function. You will also automatically return to the main screen for the selected function.

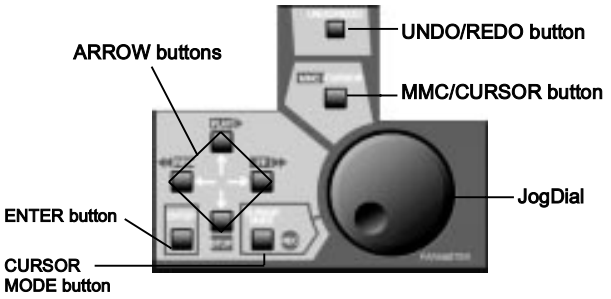
While the library is displayed, pressing the **STORE** button will immediately store the current function settings to the current memory location, unless the memory location is write-protected.

See **Chapter 5, Library** in the Users' Guide for additional information.

⑯ Keypad and ⑰ Cursor Control Section



Keypad



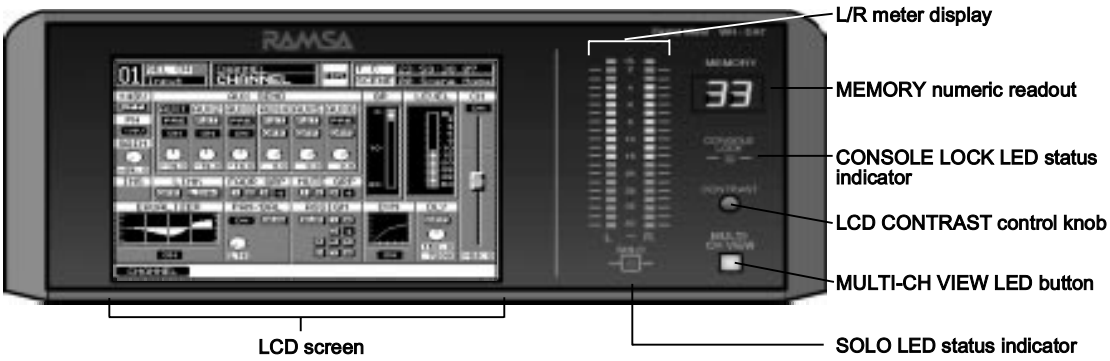
Cursor Control Section

Details on the **Keypad**, **UNDO/REDO** button, **MMC/CURSOR** button, **ARROW** buttons, **ENTER** button, **CURSOR MODE** button, and **JogDial** elements of the *DA7* Top Panel are provided in **Chapter 4** in the Users' Guide.

⑱ Headset Control Section

A stereo headset connector and headset volume control are located under the right front edge of the Top Panel of the *DA7*. The current **MONITOR A** selection is always routed to the headset connector.

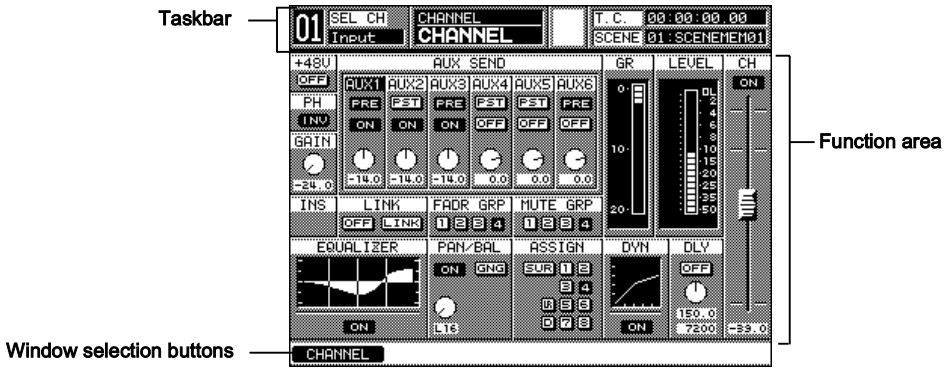
Display Bridge



Display Bridge Section

The **Display Bridge** for the *DA7* is your "window" to the mixer functions and features. The elements comprising the **Display Bridge** are the LCD screen, the **L/R** meter display, the **MEMORY** numeric readout, the **CONSOLE LOCK** LED status indicator, the **CONTRAST** control knob, the **MULTI-CH VIEW** (multi-channel) LED button, and the **SOLO** LED status indicator.

LCD Screen

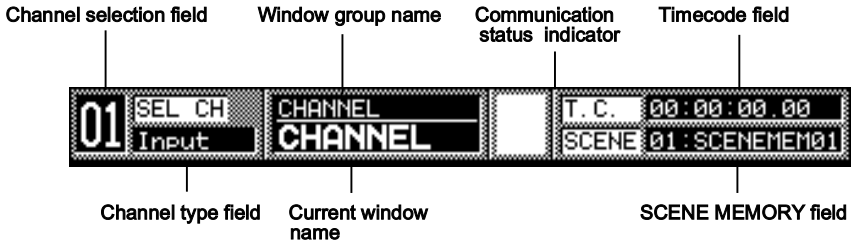


Sample Window Display (CHANNEL window displayed)

The LCD screen is the 320x240 backlit liquid-crystal display (LCD) element of the **Display Bridge**. The screen displays the various windows that show the functions and status of the *DA7*. The windows contain areas and items that can be accessed with the cursor control or **JogDial**.

There are three general areas for the windows displayed on the LCD screen: the **[taskbar]** area, the **[function]** area, the **[windows selection buttons]** area.

Taskbar Area



Taskbar Area

The **[taskbar]** area of a window contains information about the current window and the most recent mixer selections. Several of the items in the **[taskbar]** will remain unaffected when you change to another window, depending on the new window selection.

Channel Selection Field

This field shows the currently selected **Channel, BUS**, or **MASTER L/R** strip selection. When channels or buses are paired, the field will display both numbers. The field will change when you press a different **SELECT** LED button on the Top Panel.

Channel Type Field

This field shows the most recently selected channel type. The field will change when you press a **SELECT** LED button on the Top Panel.

Window Group Name

The current window group name is displayed in this field.

Current Window Name

The name of the current window is displayed in this field.

Communication Status Indicator

This area of the **[taskbar]** displays the current communication status as configured in the **[MIDI>SETUP]** window. The selections are either **[TO PC]**, **[S I/O]**, or **[MIDI]**.

Timecode Field

This field displays the most recent time code value received by the mixer, as defined by the settings in the **[AUTOMATION>EXECUTE]** window.

SCENE Field

This field displays the most recently read **SCENE MEMORY** number and name.

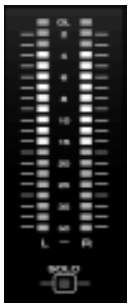
Function Area

The **[function]** area of a window contains the various controls, buttons, settings, and values for the current window.

Window Selection Buttons Area

This area of a window contains the buttons for the windows that comprise the current window group. The button for the current window will be highlighted.

L/R Meter Display



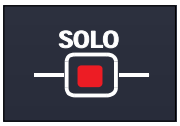
SOLO LED status indicator

L/R Meter Display

This meter reflects the current **MASTER L/R** (left/right) output of the *DA7*, unless **SOLO** has been activated for a channel. If a **SOLO** LED button is selected on the mixer, the meter reflects the level of the solo'd channel(s) only.

In the **[METER>SLOT]** window, the **[RESPONSE]** area lets you select between **[VU]** (Volume Units) and **[PPM]** (Pulse Position Modulation). When **[VU]** is selected, the **L/R Meter Display** will show the mixer output in Volume Units, and when **[PPM]** is selected, the Meter reflects the mixer output as Pulse Position Modulation.

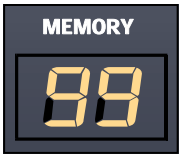
SOLO LED Status Indicator



SOLO LED Status Indicator

Located below the **L/R** meter display, the **SOLO** LED status indicator will light and flash *(red)* when **SOLO** has been activated for any channel on the mixer.

MEMORY Numeric Readout



MEMORY Numeric Readout

The two-digit numeric readout displays the most recently accessed **SCENE MEMORY**. Whenever an **AUX** monitoring selection button is activated for either **MONITOR A** or **MONITOR B**, the numeric display will momentarily display the **AUX** selections.

CONSOLE LOCK LED Status Indicator

CONSOLE LOCK LED Status Indicator

When illuminated *(red)*, the password protection for an area or function of the mixer is engaged, and selected mixer operations cannot be performed.

See **Section 16-3, [UTILITY>CONFIG] Window** for more information.

CONTRAST Control Knob

CONTRAST Control Knob

This knob controls the contrast value of the LCD screen. Rotate the knob to adjust the contrast value of the LCD screen for optimum viewing and to suit the operating environment.

MULTI-CH VIEW LED Button

MULTI-CH VIEW LED Button

Press this LED button to activate the multi-channel viewing mode for the LCD screen. When on (red), the LCD screen will display the currently selected **Channel Fader** and one of other sources that can be used to compare or copy information from the current selection.

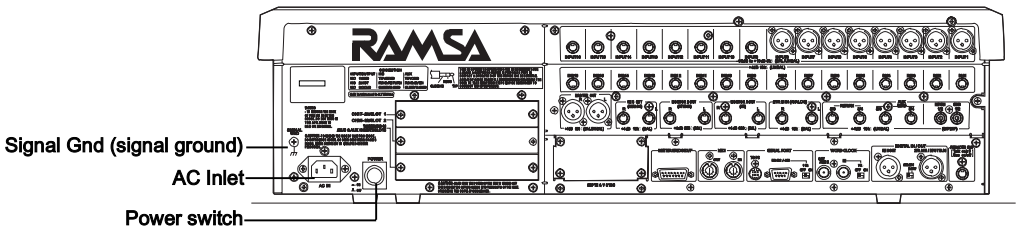
See **Chapter 5, Channel, Library, and Meter Windows** in the Users' Guide for more information.

Rear Panel

Everything that goes in, out, and through the *DA7* happens on the Rear Panel, with the exception of the headphone connector. The *DA7* provides multiple ways for doing many things, so let your creativity be your guide.

The rear of the *DA7* is configured in four rows. The top row contains analog **INPUTS 1-16** (inputs 1-8 are balanced XLR connectors and inputs 9-16 are balanced TRS (tip-ring-sleeve) phone plug connectors).

Row 2 contains analog **INS 1-16 (**inserts) with (TRS) phone plug connectors. Row 3 contains outputs for **MASTER OUT**, **REC OUT** analog, **MONITORS A&B,** and **AUX** returns and sends 1 through 6. The bottom row contains the **METER BRIDGE** connection, **MIDI IN/OUT**, **SERIAL PORT** (for direct connection to a PC or a Macintosh computer), **WORD CLOCK IN/OUT**, **DIGITAL IN/OUT**, and a **REMOTE SW** connector.



DA7 Rear Panel

Power Switch

Turns the power on and off to the *DA7*.

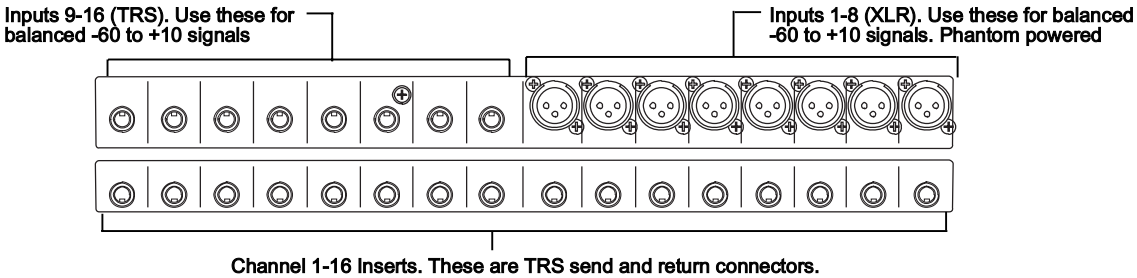
AC Inlet

Plug the AC power cord here.

Signal Ground [SIGNAL GND]

Connect to a grounded source to stabilize the voltage levels of the connected devices, and to prevent hum and buzz created by ungrounded sources.

Rows 1 & 2 Connectors


Inputs 9-16 (TRS). Use these for balanced -60 to +10 signals
Inputs 1-8 (XLR). Use these for balanced -60 to +10 signals. Phantom powered
Channel 1-16 Inserts. These are TRS send and return connectors.

Cutaway of DA7 Rear Panel (Rows 1 and 2) Input and Insert Connectors

INPUTS 1-8

These inputs are designed for XLR connectors. The input range is from -60dB to +10dB, 5k Ω BAL. Use the **MIC/LINE INPUT** knobs on the **Channel Strips** for adjustment of the incoming level. From the **[CHANNEL]** window, the +48V phantom power can be individually turned on or off for each channel via the screen.

INPUTS 9-16

Use these inputs with a 1/4" TRS (tip-ring-sleeve) phone plug connector. Use the **MIC/LINE INPUT** knob to adjust the input level. The input range is from -60dB to +10dB, 5k Ω BAL. There is no +48V phantom power. Microphones used on these inputs must be externally powered if required.

INSERTS 1-16

These inserts are used for creating an effects loop. A 1/4" TRS phone plug, with a level of +4 dB, 10k Ω UNBAL, provides an output (tip) send to effects, or an input (ring) return from an outboard effects device.

Monitor B Out

These terminals are 1/4" TRS dual phono plugs at a level of +4dB, 600Ω BAL, and connect the output of the **MONITOR B** source selection to an external amplifier for monitoring in the studio.

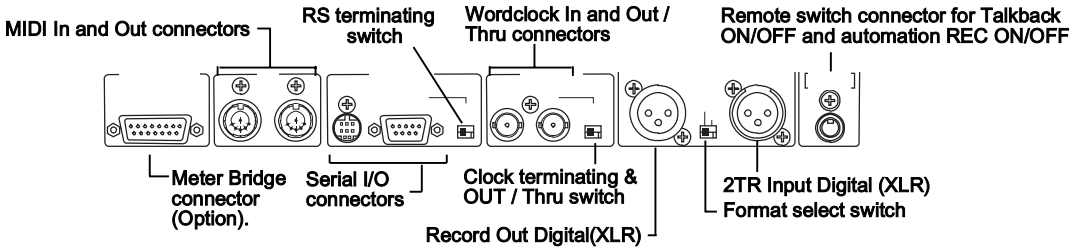
[REC OUT] Record Output

Use 1/4" TRS phone plugs, at a level of +4dB, 10kΩ BAL, to output signals for recording.

Master Output

Female XLR connectors send the **MASTER L/R** analog program output to external speakers and/or a recording device of +4 dB, 600Ω BAL.

Row 4 Connectors


MIDI In and Out connectors
RS terminating switch
Wordclock In and Out / Thru connectors
Remote switch connector for Talkback ON/OFF and automation REC ON/OFF
Meter Bridge connector (Option).
Serial I/O connectors
Clock terminating & OUT / Thru switch
Record Out Digital(XLR)
2TR Input Digital (XLR)
Format select switch

Cutaway of DA7 Rear Panel Row (4) Digital and Serial Connectors

Remote SW [Switch]

Connect a momentary or press-to-talk switch with a 1/4" TS phone plug for Talk Back or automation record functions. Parameters are assignable in the **[UTILITY>CONFIG]** window.

Digital Input [AES/EBU]

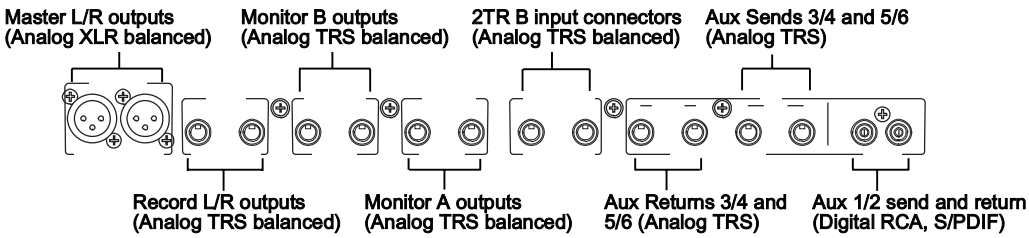
An XLR connector inputs an audio signal from a DAT or other digital source. Assignments can be made from the **[D-I/O>INPUT SET]** window.

This incoming source can be monitored by selecting the **2TR A** LED button as the **MONITOR A** source selection, or, on **Channel Faders 15** and **16**, when **2TR A** is assigned in the **[D-I/O>INPUT SET]** window. The signal can also be directly assigned to the **MASTER L/R** program output.

Digital Record Output [AES/EBU]

XLR connections of the **MASTER L/R** digital output are for use in recording by a digital device with AES/EBU digital input capabilities.

Row 3 Connectors


Master L/R outputs (Analog XLR balanced)
Monitor B outputs (Analog TRS balanced)
2TR B input connectors (Analog TRS balanced)
Aux Sends 3/4 and 5/6 (Analog TRS)
Record L/R outputs (Analog TRS balanced)
Monitor A outputs (Analog TRS balanced)
Aux Returns 3/4 and 5/6 (Analog TRS)
Aux 1/2 send and return (Digital RCA, S/PDIF)

Cutaway of DA7 Rear Panel (Row 3) Output Connectors

AUX SEND 1/2

Use RCA connectors to attach a digital effects device or another S/PDIF device to the **AUX SEND 1/2** and **AUX RETURN 1/2** digital terminals. **AUX/BUS Fader Layer** faders control the **AUX 1/2 SEND** and **RETURN**. These connections are not analog signals.

AUX SEND 3/4, 5/6

These terminals are 1/4" TRS phone plug connectors, at a level of +4dB, 10kΩ UNBAL. They can be used for connecting outboard signal processing devices, or for a studio headphone feed, or as part of a multitrack output setup. The possibilities are limited only by your imagination. The **AUX/BUS Fader Layer** is the fader control for these connections.

AUX RETURN 3/4, 5/6

These terminals are 1/4" TRS phone plug connectors, at a level of +4dB, 10kΩ UNBAL. The **AUX/BUS Fader Layer** is the fader control for these feeds.

2-Track B Input

This is used to connect an analog source strictly for monitoring purposes, as it does not appear as an input to the mixer. Connect a 1/4" TRS phone plug to the output signal from a cassette deck, for example. The input signals are sent to the **2 TR B IN** LED button in the monitor section. The level is +4dB, 10kΩ BAL.

Monitor A Out

These terminals are 1/4" TRS dual phone plugs at a level of +4dB, 600Ω BAL, and connect the output of the **MONITOR A** to an external amplifier (or powered speaker) for monitoring in the control room (**CR**).

Format Select Switch

This switch is used to select the signal format of the connected device, either AES/EBU or S/PDIF. The digital input and output are both switched. For S/PDIF usage, an optional adapter is required. You must make certain that the adapter connects pin #1 and #3 together.

Clock Terminating 75 Ω ON/OFF & Out / Thru Switch

Next to the **WORD CLOCK IN** BNC connection, this switch should be set to 75 Ω **OFF** and **Thru** position if the *DA7* is being used to pass the wordclock signal to other devices in the chain.

Set the switch to 75 Ω **ON** and **OUT** for terminating the wordclock, if the *DA7* is slaved and located at the end of the wordclock chain. The 75 Ω **ON** and **OUT** position should also be selected when the *DA7* is being used to slave other devices to the *DA7's* wordclock. See **Chapter 12, D-I/O** in the Users' Guide for more information.

Clock Input

This is used to synchronize the *DA7* to an external word clock source. This allows the *DA7*'s internal clock to slave to another reference, such as a digital multi-track deck or other device. Use a BNC connection to attach an external wordclock source.

Clock Output

This is used to slave an external device, such as a digital multi-track machine, to the *DA7* internal clock. It can also be used to relay an external wordclock that is being used to synchronize the *DA7* to an external device. Using a BNC connector, other devices can synchronize to the *DA7* wordclock.

Serial Terminating Switch

Set the switch to **ON** if the *DA7* is the termination point of the RS-422/485 serial transmission path. The 110Ω switch turns this function **OFF/ON**.

Serial Port [RS-422/485]

Use this serial port to connect an IBM compatible computer having an RS-422/485 port. Connect to the *DA7* with a D-SUB 9-pin connector. Optional remote control software for your computer can be used to control the *DA7*, thus expanding the features and capabilities of the mixer.

Serial Port [TO PC]

Use this serial port to connect with a Macintosh computer. If the computer is an IBM compatible, you may need a conversion cable that changes a Mini-DIN 8 pin (for TO PC) to a D-sub 9 pin(for RS-232C), available at nearest dealer. Optional remote control software for your computer can be used to control the *DA7*, thus expanding the features and capabilities of the mixer.

MIDI IN

This connector is used to receive signals from peripheral MIDI devices.

MIDI OUT

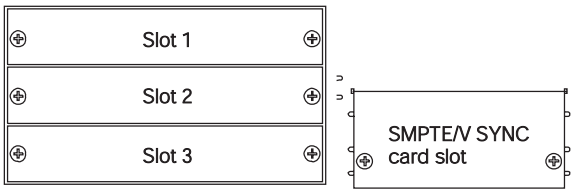
This connector is used to send signals to peripheral MIDI devices. The *DA7* can be used as a MIDI controller. See **Chapter 11, MIDI** in the Users' Guide for details.

METER BRIDGE Connector

This is used to connect the optional Meter Bridge for the *DA7*.

See **Chapter 17, Options** in the Users' Guide for more details.

Option Card Slots



Option Card Slots

There are three slots for the optional audio Input/Output cards, plus one dedicated slot for the **SMPTE/V SYNC** card. The space for the **SMPTE/V SYNC** card is located directly under the **MASTER OUT** XLR connectors. Audio option cards are next to the power switch. The audio option cards can be used in any of the audio slots, but for TANDEM operation, the TANDEM card MUST be used in Slot 3.

Video Sync Input [V SYNC]

This is used to connect a vertical synchronizing signal from a video device.

See **Chapter 17, Options** in the Users' Guide for more about SMPTE/V SYNC.

Digital I/O Slot 1 [CH17-24/SLOT 1]

When an option card is inserted into Slot 1, the output of the connected device appears on **Channel Faders** 17 through 24, and is controlled by the **Fader Layer Inputs 17-32**.

Digital I/O Slot 2 [CH25-32/SLOT 2]

When an option card is inserted into Slot 2, the output of the connected device appears on **Channel Faders** 25 through 32, and is controlled by the **Fader Layer Inputs 17-32**.

Digital I/O Slot 3 [CH9-16/SLOT 3]

When an option card is inserted into Slot 3, the output of the connected device appears on **Channel Faders** 9 through 16, and is controlled by the **Fader Layer Inputs 1-16**. This connection REPLACES the analog inputs 1-16 with whatever is connected to the option card in Slot 3.

For more information regarding optional slots, see **Chapter 12, D-I/O** and **Chapter 17, Options** in the Users' Guide.

SELF CHECK FUNCTION

- The Self Check Function is incorporated in the Digital Audio Mixer WR-DA7.

1. Test Equipment Required

- The following Test Jigs are required for Self Check and Service of the WR-DA7.
- AD EXTD-1 (Part Number : YWA0EA1196AN) between the Power-2 Board and AD/DA Board as shown in fig. 1-1.

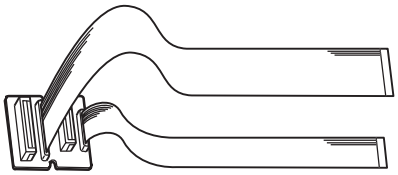


Fig. 1-1

- SLOT EXTD (Part Number : YWA0EA1198AN) for the optional Board as shown in fig. 1-2.

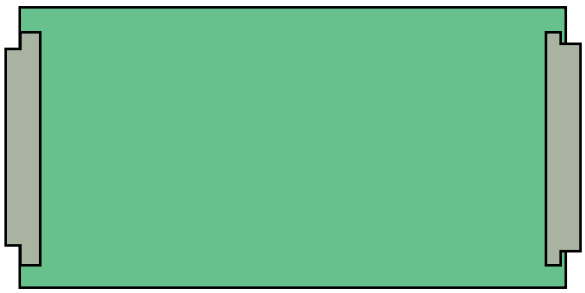


Fig. 1-2

- AD EXTD-2 (Part Number : YWA0EA1199AN) between the Main Board and AD/DA Board as shown in fig. 1-3.

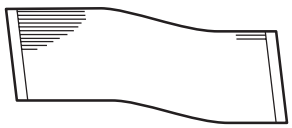


Fig. 1-3

- PC RTN (Part Number : YWA0EA1200AN) for the PC Connector as shown in fig. 1-4.

Fig. 1-4

- RS422/485 RTN (Part Number : YWA0EA1202AN) for RS422/485 Connector as shown in fig. 1-5.

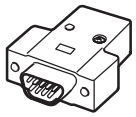


Fig. 1-5

- MTBR RTN (Part Number : YWA0EA1203AN) for the Meter Bridge Connector as shown in fig. 1-6.

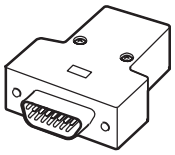


Fig. 1-6

2. Disassembling Procedure

- Referring to Fig. 2-1, remove three knobs and fifteen screws that secure the Upper Cover Ass'y.

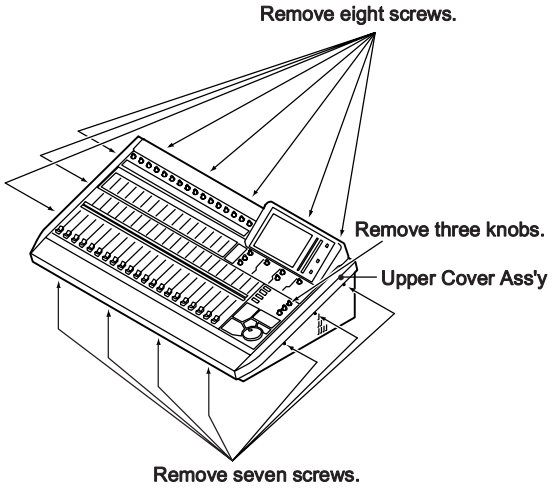


Fig. 2-1

- Referring to Fig. 2-2, pull up the Upper Cover Ass'y and hock to the slot of the Right Side Chassis of the Upper Cover Ass'y.

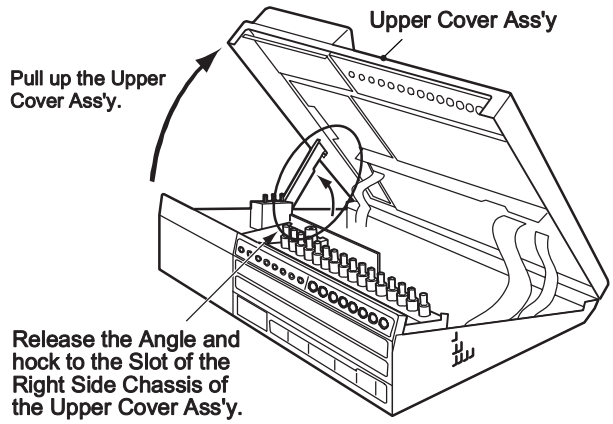

Upper Cover Ass'y
Pull up the Upper Cover Ass'y.
Release the Angle and hock to the Slot of the Right Side Chassis of the Upper Cover Ass'y.

Fig. 2-2

- Referring to Fig. 2-3, pull up the Upper Cover Ass'y and remove eleven screws that secure the HA Block and remove the HA Block.
- Cut one Wire Binder that secure the Ground Cable and others.
- Remove one screw that secure the Ground Cable (Brown Wire) at the Power-2 Board and tighten this screw.
- Connect this Ground Cable (Brown Cable) to the Chassis.

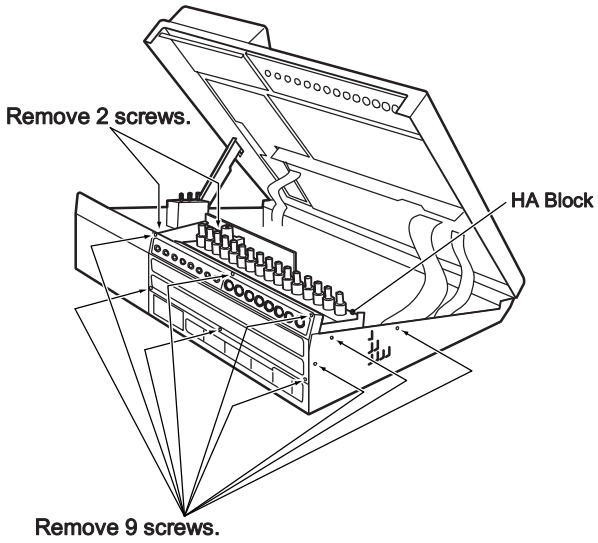


Fig. 2-3

- Referring to Fig. 2-4, disconnect three Cables from the Connectors CN33, CN52 and CN 53 of the AD/DA Board.
- Insert two Cables from the Power-2 Board to the AD EXTD-1.
- Insert two Cables of the AD EXTD to two Connectors CN52 and CN53 of the AD/DA Board.
- Insert the AD EXTD-2 between CN33 of the Main Board and CN33 on the AD/DA Board.

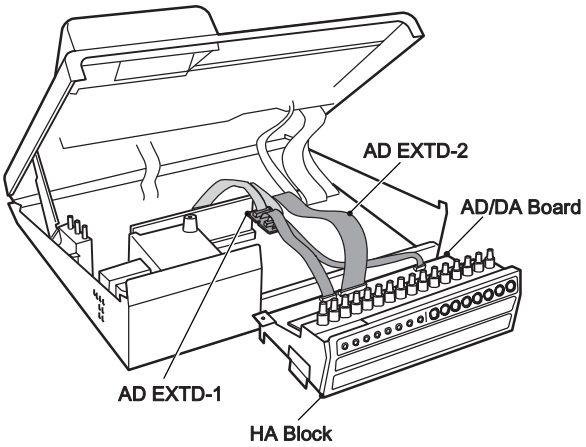


Fig. 2-4

3. Execution of the Self Check Function

- Turn the Power On while pressing the [SELECT] Key, [ON] Key of the MASTER LR and [3] Key of the TEN KEY simultaneously, the Self Check Function has been executed and the Diagnostic Menu 1 as shown in Fig. 3-1 is displayed on the LCD Display of the WR-DA7.

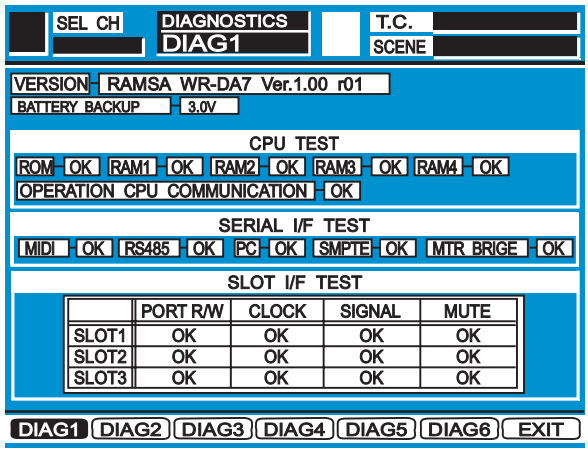

SEL CH
DIAGNOSTICS
DIAG1
T.C.
SCENE
VERSION RAMSA WR-DA7 Ver.1.00 r01
BATTERY BACKUP 3.0V
CPU TEST
ROM OK RAM1 OK RAM2 OK RAM3 OK RAM4 OK
OPERATION CPU COMMUNICATION OK
SERIAL I/F TEST
MIDI OK RS485 OK PC OK SMPTE OK MTR BRIGE OK
SLOT I/F TEST
PORT R/W CLOCK SIGNAL MUTE
SLOT1 OK OK OK OK
SLOT2 OK OK OK OK
SLOT3 OK OK OK OK
DIAG1 DIAG2 DIAG3 DIAG4 DIAG5 DIAG6 EXIT

Fig. 3-1

4. Fundamental Operation

4.1. Selection and Execution of the Check Item

- Select the Check Item by either UP or DOWN Cursor Key on the Upper Cover Ass'y.
- Execute the Check Item by pressing the Enter Key on the Upper Cover Ass'y.

4.2. Switching of the Diagnostic Menu

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item by either LEFT or RIGHT Cursor Key on the Upper Cover Ass'y.
- Execute the Diagnostic Item by pressing the Enter Key.

5. Check Each Item

5.1. Version Indication (VERSION)

- Referring to Fig. 5-1, the Product Description and the Version of the Control Program will be displayed.
- Displayed always without any Item Selection and Execution.

5.2. Battery Backup Indication (BATTERY BACKUP)

- Referring to Fig. 3-1, the remaining voltage value of the Memory Backup Battery will be displayed.
- Displayed always without any Item Selection and Execution.

5.3. CPU Test (CPU TEST)

- Referring to Fig. 3-1, select the CPU TEST Item by either UP or DOWN Cursor Key.
- Execute the CPU TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for ROM (Flash Memory) and four RAMs (RAM1, RAM2, RAM3 and RAM4), and check the Serial Communication in between Main CPU and Sub CPU.
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.4. Serial Interface Test (SERIAL I/F TEST)

- Connect the Return Cable and the Return Connectors to the MIDI Connector, RS-422/485 Connector, TO PC Connector.
- Insert the SMPTE Board to the Slot of the SMPTE Board and supply the Time Code from the Time Code Generator.
- Connect the Return Connector to the Meter Bridge I/F Connector.
- Referring to Fig. 3-1, select the SIR I/F TEST Item by either UP or DOWN Cursor Key.
- Execute the SERIAL I/F TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the Interface of MIDI, RS-422/485, TO PC, SMPTE and METER BRIDGE.
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.5. Multi IC/Mix IC Test (MLT/MIX TEST)

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item (DIAG2) by either LEFT or RIGHT Cursor Key.
- Press the Enter Key, the Diagnostic Menu 2 as shown in Fig. 5-1 is displayed.

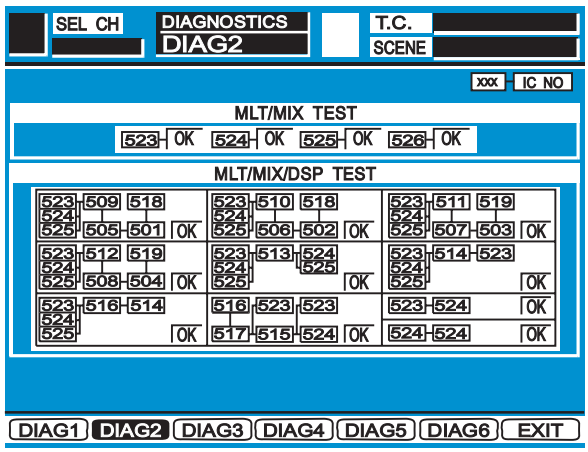


Fig. 5-1

- Referring to Fig. 5-1, select the MLT/MIX TEST Item by either UP or DOWN Cursor.
- Execute the MLT/MIX TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the three MIX ICs (IC523 - IC525) and one Multi IC (IC526).
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.6. Multi IC/Mix IC/DSP Overall Test (MLT/MIX/DSP TEST)

- Referring to Fig. 5-1, select the MLT/MIX/DSP TEST Item by either UP or DOWN Cursor.
- Execute the MLT/MIX/DSP TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for chains of signal path consist of three MIX ICs (IC523 - IC525) and nineteen DSP ICs (IC501 - IC519).
- Each DSP IC has been controlled through the Multi IC (IC526) so that the Self Check for the Multi IC is made in this section.
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.
- In the case displayed "NG" in defective signal path, passed IC number(s) is (are) displayed reverse indication in a half way.
  So that easy to find which signal path is defected as shown in Fig. 5-2.

Fig. 5-2

<For examples>

In case of Fig. 5-2, defective IC501 or defective connection between IC501 and IC518.

5.7. DSP Meter Signal Test (METER SIGNAL TEST)

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item (DIAG3) by either LEFT or RIGHT Cursor Key.
- Press the Enter Key, the Diagnostic Menu 3 as shown in Fig. 5-3 is displayed.

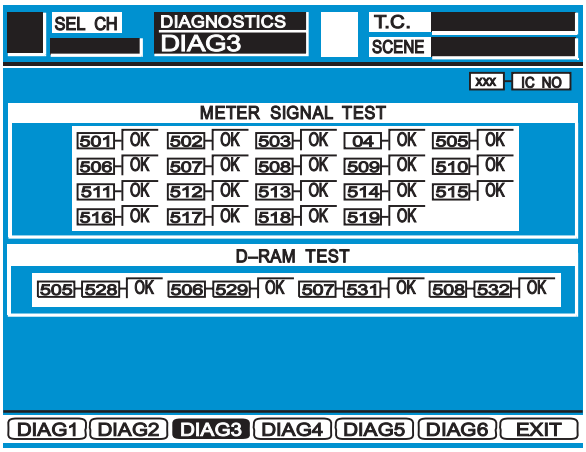

SEL CH
DIAGNOSTICS
DIAG3
T.C.
SCENE
XXX
IC NO
METER SIGNAL TEST
501 OK 502 OK 503 OK 04 OK 505 OK
506 OK 507 OK 508 OK 509 OK 510 OK
511 OK 512 OK 513 OK 514 OK 515 OK
516 OK 517 OK 518 OK 519 OK
D–RAM TEST
505 528 OK 506 529 OK 507 531 OK 508 532 OK
DIAG1 DIAG2 DIAG3 DIAG4 DIAG5 DIAG6 EXIT

Fig. 5-3

- Select the METER SIGNAL TEST Item by either UP or DOWN Cursor.
- Execute the METER SIGNAL TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the Meter Signal Paths from the nineteen DSP ICs (IC501 - IC519) to Multi IC (IC526).
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.8. DSP D-RAM Test (D-RAM TEST)

- Referring to Fig. 5-3, select the D-RAM TEST Item by either UP or DOWN Cursor.
- Execute the D-RAM TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the D-RAMs (IC528 - IC532) Signal Paths from four DSP ICs (IC505 - IC508) to Multi IC (IC526).
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.9. Digital Interface Test (DIGITAL I/F TEST)

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item (DIAG4) by either LEFT or RIGHT Cursor Key.
- Press the Enter Key, the Diagnostic Menu 4 as shown in Fig. 5-4 is displayed.

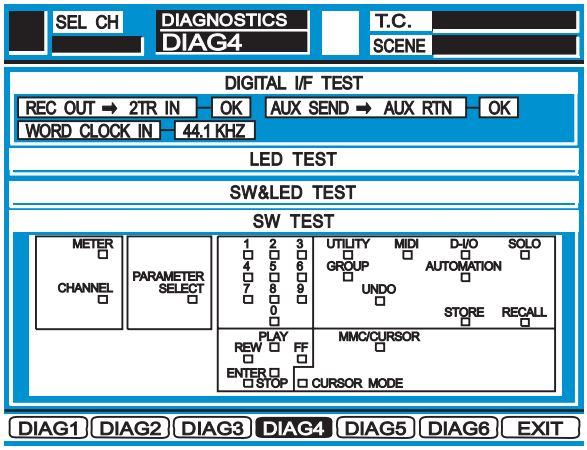


Fig. 5-4

- Connect the Record Output Connector and 2TR A Input Connector, connect the AUX SND1/2 Connector and AUX RTN1/2 Connector.
- Select the DIGITAL I/F TEST Item by either UP or DOWN Cursor.
- Execute the DIGITAL I/F TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the signal paths Record Output Connector to 2TR Input Connector and AUX SND1/2 Connector to AUX RTN1/2 Connector.
- A result after Self Check, displayed "OK" in passed item and displayed "NG" in defective item.

5.10. Word Clock Indication (WORD CLOCK)

- Referring to Fig. 5-4, a presence Master Word Clock Frequency and Lock/Unlock Status will be displayed.
- Displayed always without any Item Selection and Execution.

5.11. LED Test (LED TEST)

- Referring to Fig. 5-4, select the LED TEST Item by either UP or DOWN Cursor.
- Execute the LED TEST Item by pressing the Enter Key.
- When executing, all LEDs except Switch LEDs lit.
- Press Enter Key to finish the LED Test.

5.12. Switch LED Test (SW&LED TEST)

- Referring to Fig. 5-4, select the SW&LED TEST Item by either UP or DOWN Cursor.
- Execute the SW&LED TEST Item by pressing the Enter Key.
- When executing, all Switch LEDs become blinking sequentially.
- When press the Switch which blinking LED, this LED becomes lit and next LED becomes blinking.
  When press the Enter Key instead of the Blinking LED Key, this LED becomes off and next LED becomes blinking (Skip Function).
- The Self Check of the Switch LED Test is finished after checked all of the Switch LEDs.

5.13. Switch Test (SW TEST)

- Referring to Fig. 5-4, select the SW TEST Item by either UP or DOWN Cursor.
- Execute the SW TEST Item by pressing the Enter Key.
- When executing, all Switches become reverse indication sequentially.
- When press the reverse indication Switch, next Switch position becomes reverse indication.
  When press the Enter Key instead of the reverse indication Switch, this reverse indication Switch will be released reverse indication and next Switch position becomes reverse indication (Skip Function).
- The Self Check of the Switch Test is finished after checked all of the Switch LEDs.

5.14. Knob Test (KNOB TEST)

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item (DIAG5) by either LEFT or RIGHT Cursor Key.
- Press the Enter Key, the Diagnostic Menu 5 as shown in Fig. 5-5 is displayed.

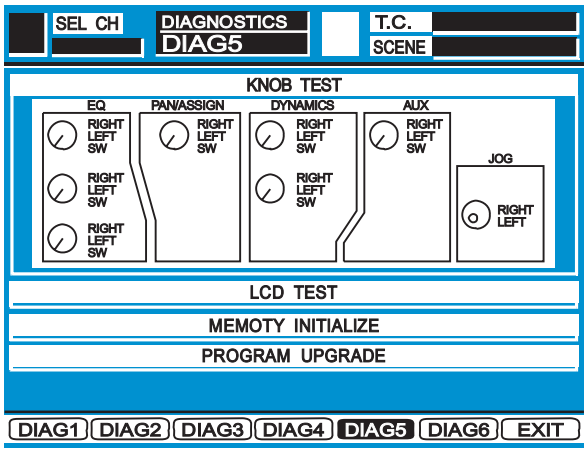


Fig. 5-5

- Select the KNOB TEST Item by either UP or DOWN Cursor.
- Execute the KNOB TEST Item by pressing the Enter Key.
- When executing, the Self Check will start for the Knobs.
  First select the Q Adjusting Knob of the EQ Section indicate to turn to right (reverse indication of the RIGHT).
- Turn the Q Adjusting Knob to right, indicate to turn to the left (reverse indication of LEFT).
- Turn the Q Adjusting Knob to left, indicate to press this Knob (reverse indication of KNOB).
  If press the Enter Key instead of the Knob, this Knob will be released reverse indication and next Knob becomes reverse indication (Skip Function).
- Press the Q Adjusting Knob, indicate to next Knob and check the same manner as above.
- The Jog Dial do not have press function.
- The Self Check will be end after check of the Jog Dial.

5.15. LCD Test (LCD TEST)

- Referring to Fig. 5-5, select the LCD TEST Item by either UP or DOWN Cursor.
- Execute the LCD TEST Item by pressing the Enter Key.
- When executing, all face of the LCD is turn on (White Indication) and off (Blue Indication) repeatedly by three seconds.
- Press the Enter Key to finish this Self Check Item.

5.16. Memory Initialize (MEMORY INITIALIZE)

- Referring to Fig. 5-5, select the MEMORY INITIALIZE Item by either UP or DOWN Cursor.
- Execute the MEMORY INITIALIZE Item by pressing the Enter Key.

- When executing, all contents of the Memories such as the Current, Scene, Library, Automation and etc. have been cleared and return to the initial contents which set in the factory.

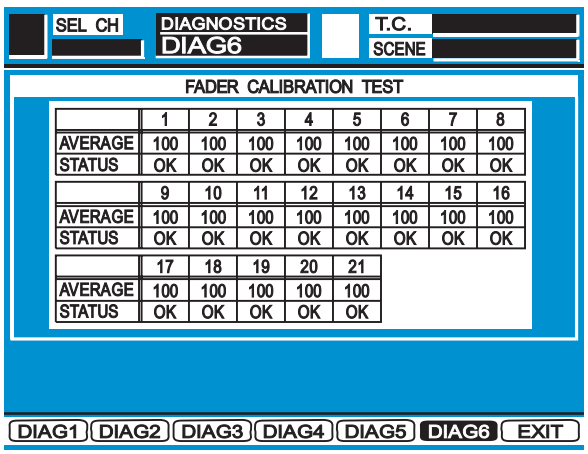
5.17. Execution of Upgrade Function (PROGRAM VERSION UP)

- Referring to Fig. 5-5, select the PROGRAM UPGRADE Item by either UP or DOWN Cursor.
- Execute the PROGRAM UPGRADE Item by pressing the Enter Key and all loaded programs in the ROM is deleted.

Note: All Programs loaded in the ROM IC have been deleted if the Program Upgrade Function is executed.
Must be need careful caution for execution this function.

3.18. Fader Calibration Test (FADER CALIBRATION TEST)

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the Diagnostic Item (DIAG6) by either LEFT or RIGHT Cursor Key.
- Press the Enter Key, the Diagnostic Menu 6 as shown in Fig. 5-6 is displayed.



	1	2	3	4	5	6	7	8
AVERAGE	100	100	100	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK	OK	OK	OK

	9	10	11	12	13	14	15	16
AVERAGE	100	100	100	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK	OK	OK	OK

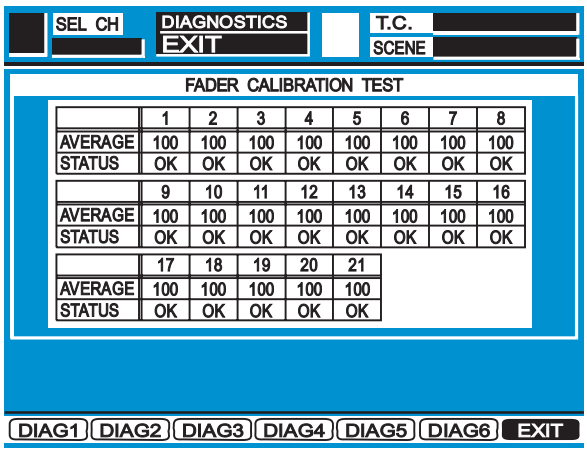
	17	18	19	20	21
AVERAGE	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK

Fig. 5-6

- Select the FADER CALIBRATION Item by either UP or DOWN Cursor.
- Execute the FADER CALIBRATION Item by pressing the Enter Key.
- When executing, all Faders (21 pcs.) have been calibrated and displayed measured value.

6. Quit of the Self Check Function

- Move the Cursor to most bottom position by either UP or DOWN Cursor Key.
- Select the EXIT Item by either LEFT or RIGHT Cursor Key as shown Fig. 6-1.



	1	2	3	4	5	6	7	8
AVERAGE	100	100	100	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK	OK	OK	OK

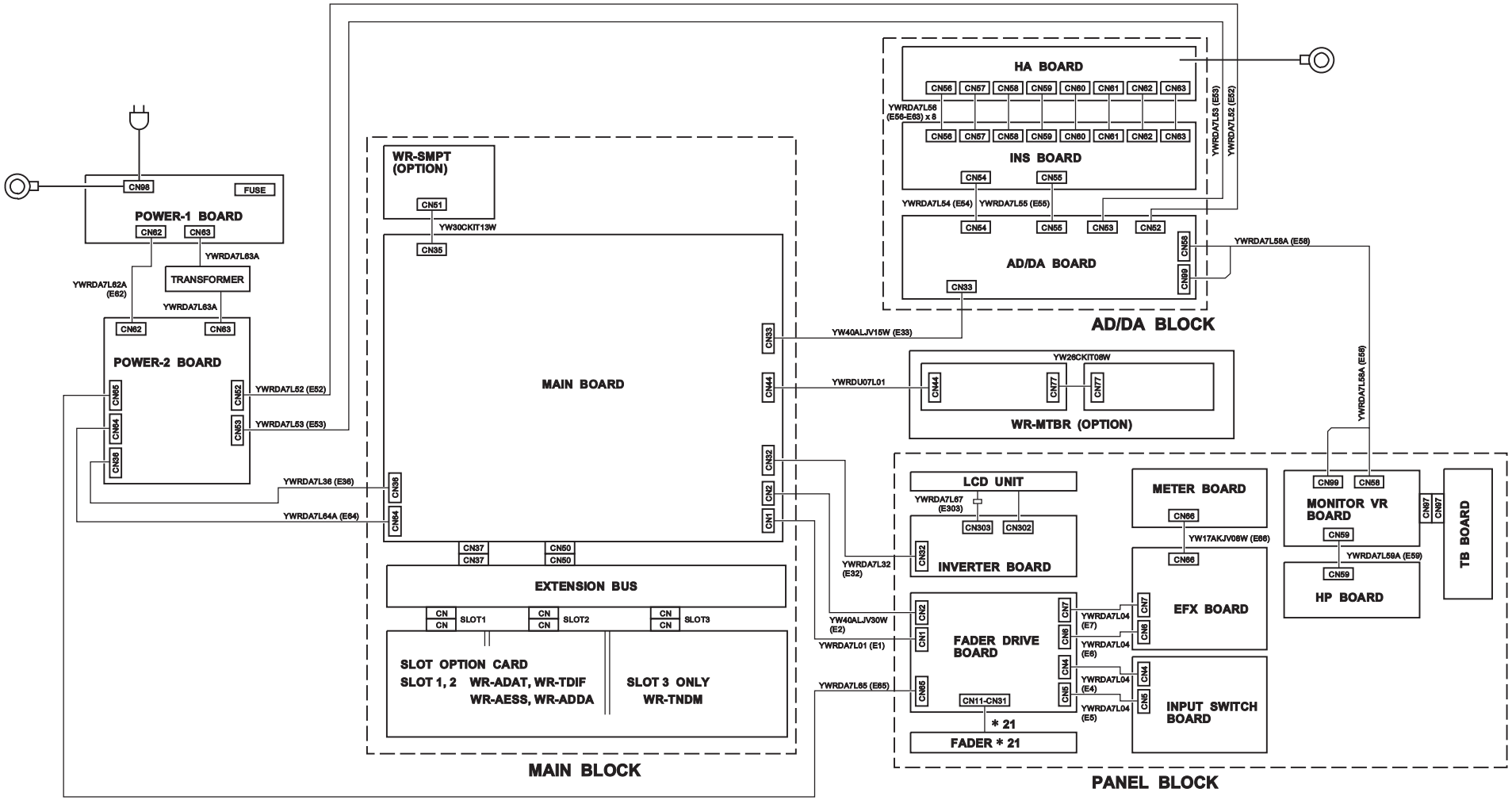
	9	10	11	12	13	14	15	16
AVERAGE	100	100	100	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK	OK	OK	OK

	17	18	19	20	21
AVERAGE	100	100	100	100	100
STATUS	OK	OK	OK	OK	OK

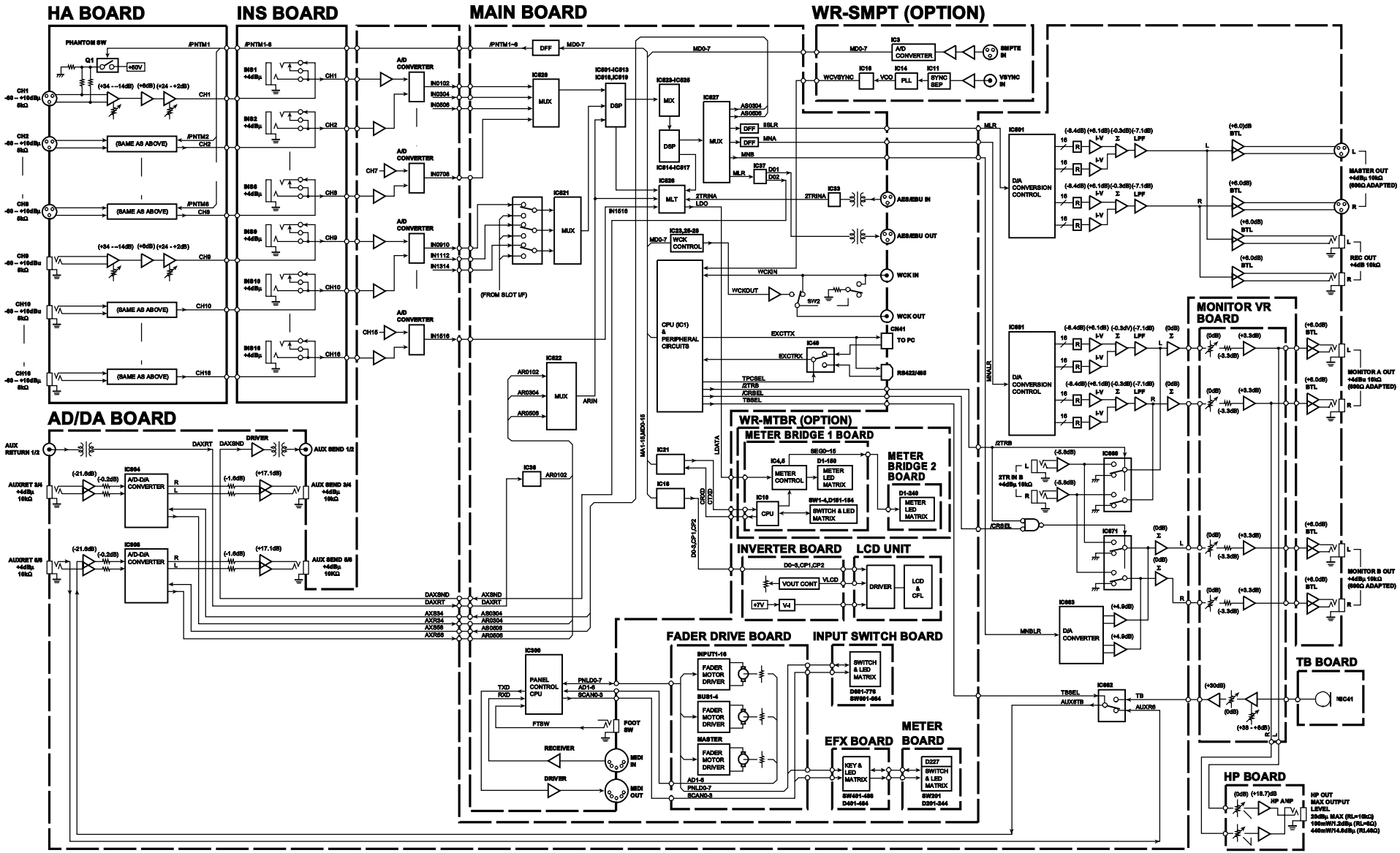
Fig. 6-1

- Press the Enter Key to Quit from the Self Check Function and execute to normal operation mode.
- The Fader Calibration Data have been cleared by the Memory Initialize so that the Fader Calibration is required after Quit from the Self Check Function.
- The Fader Calibration has been made by pressing two layer Keys [INPUT 1–16] and [CUSTOM /MIDI] simultaneously.

WIRING DIAGRAM

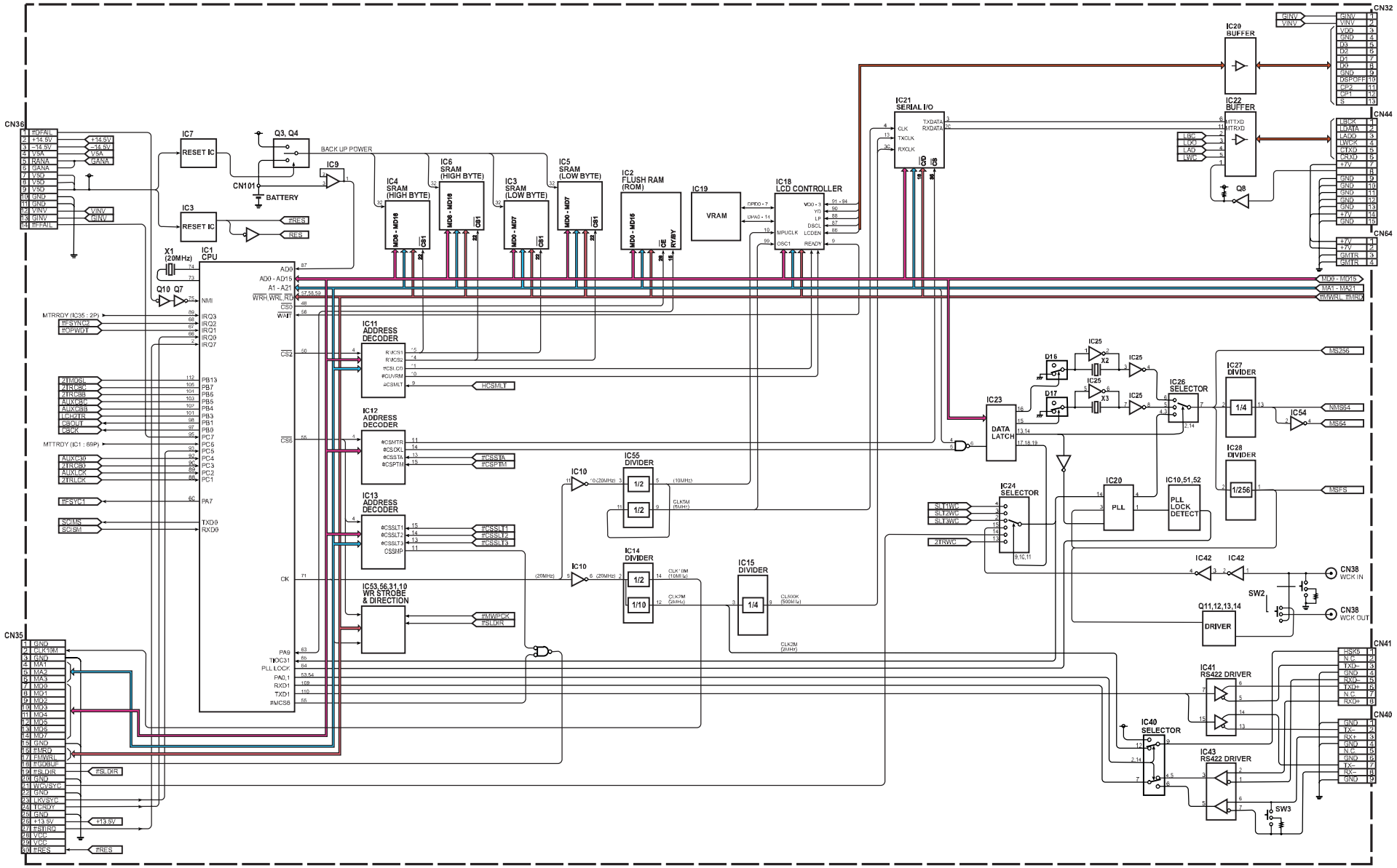


OVERALL BLOCK DIAGRAM



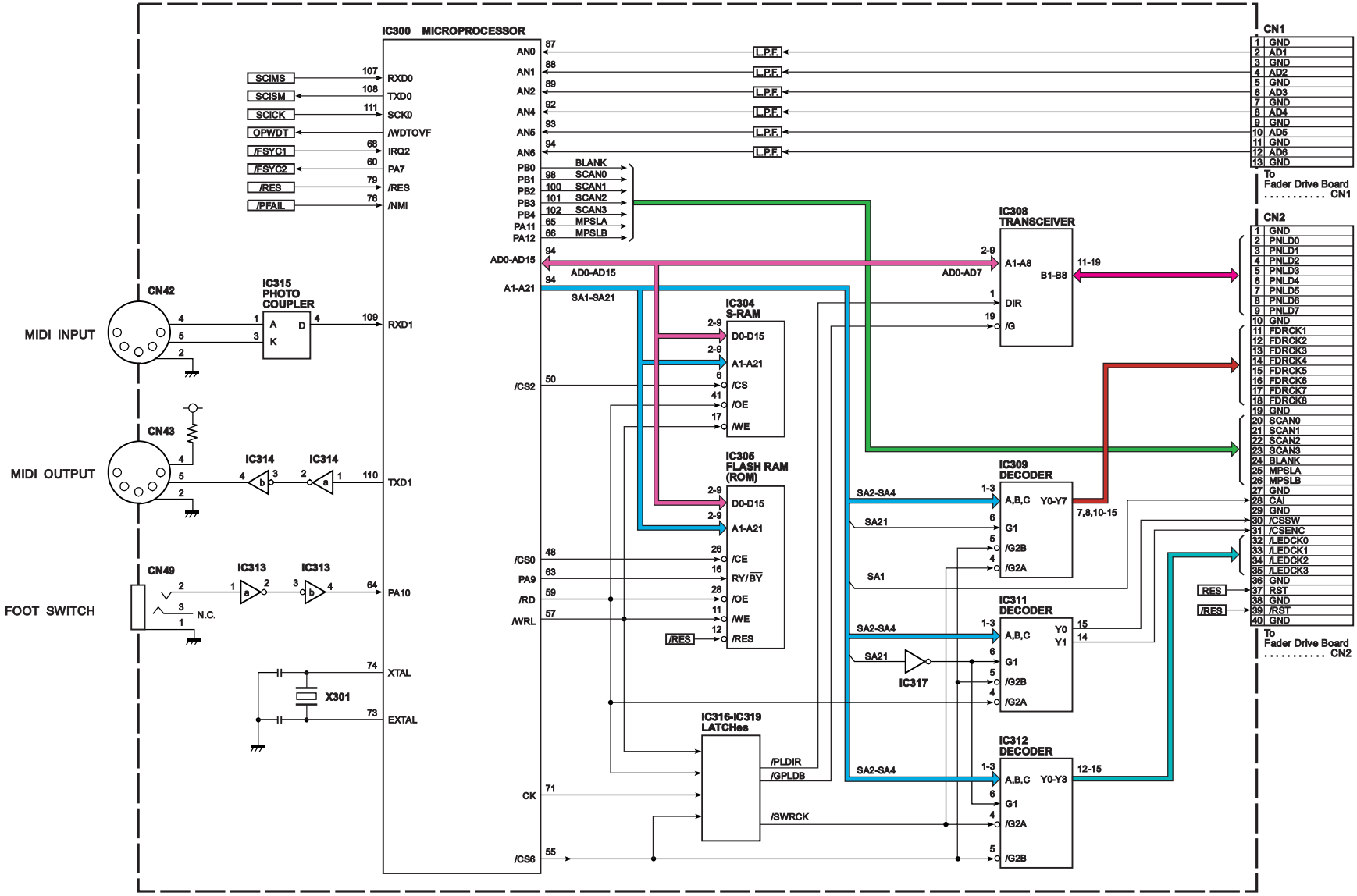
BLOCK DIAGRAM OF MAIN BOARD (CPU SECTION)

MAIN BOARD



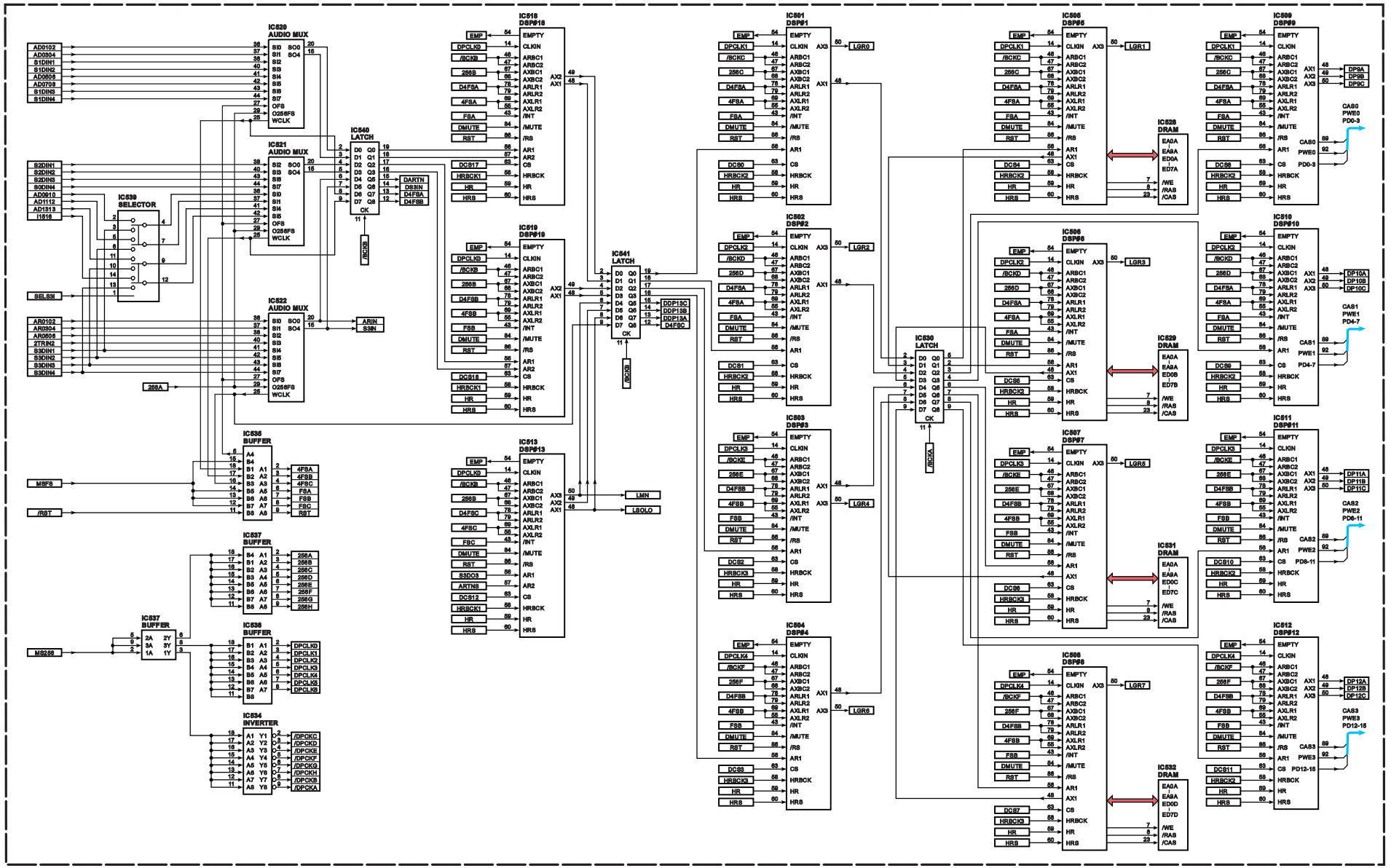
BLOCK DIAGRAM OF MAIN BOARD (PANEL CONTROL CPU SECTION)

MAIN BOARD



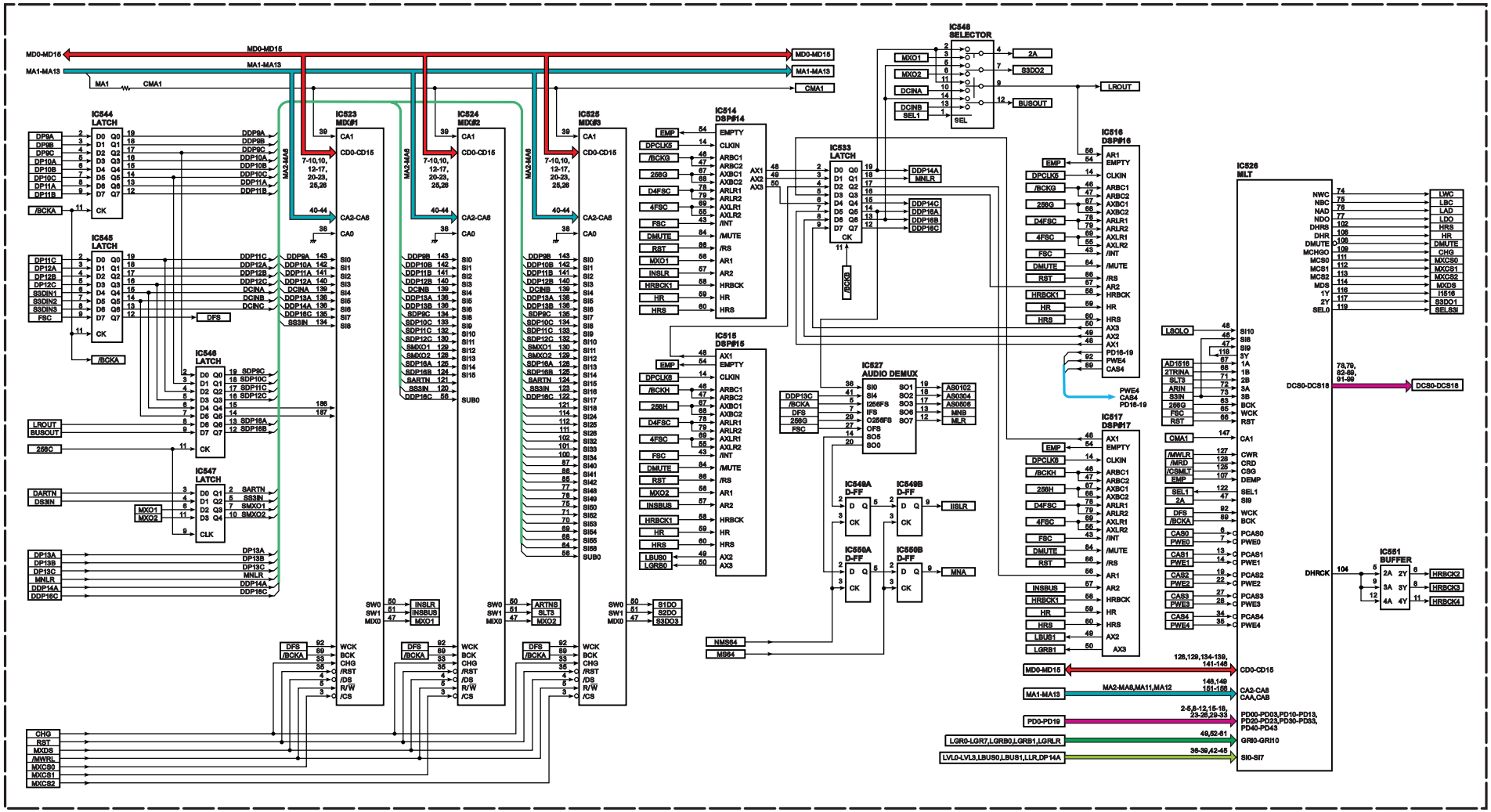
BLOCK DIAGRAM OF MAIN BOARD (DSP SECTION - 1)

MAIN BOARD



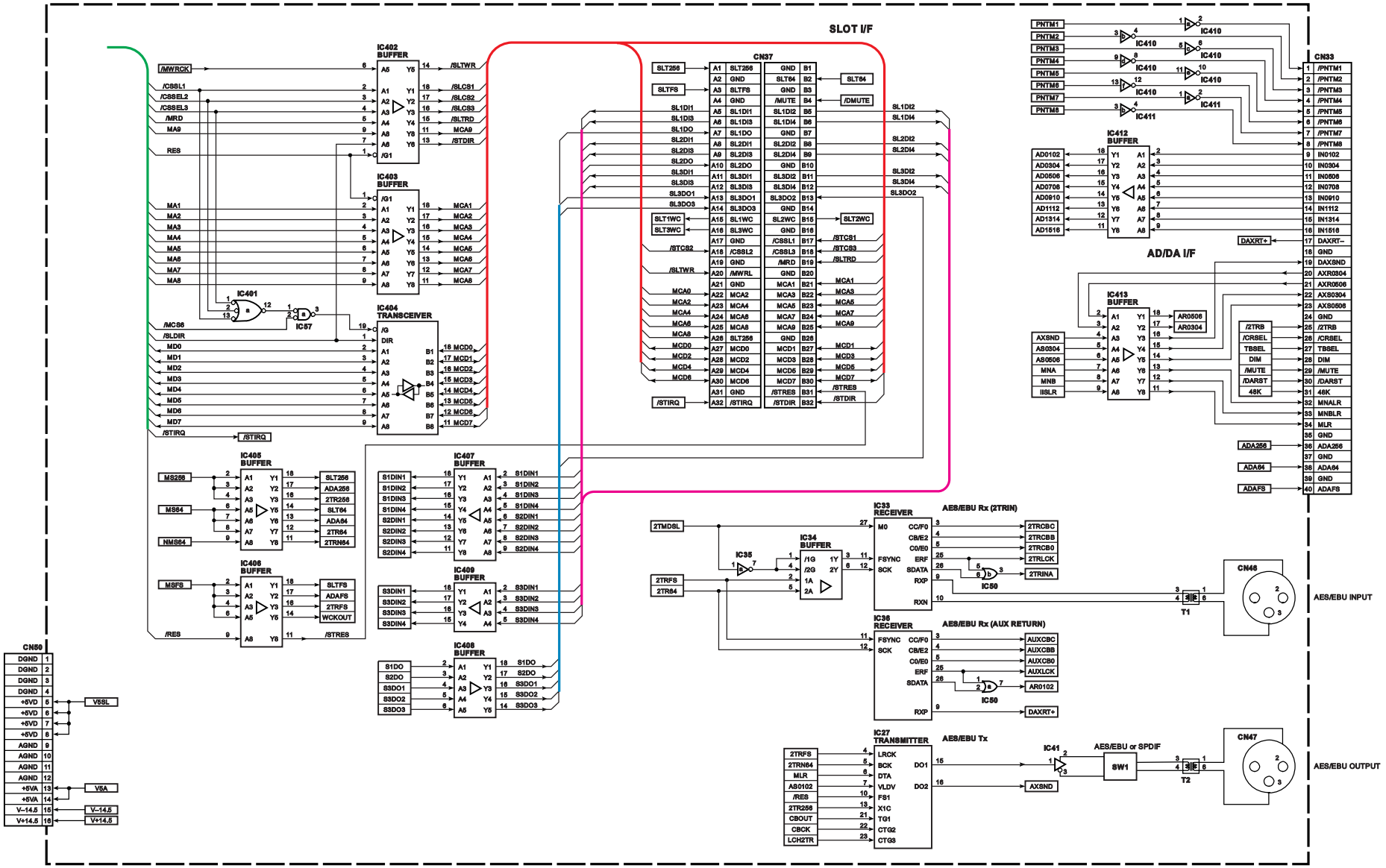
BLOCK DIAGRAM OF MAIN BOARD (DSP SECTION-2)

MAIN BOARD

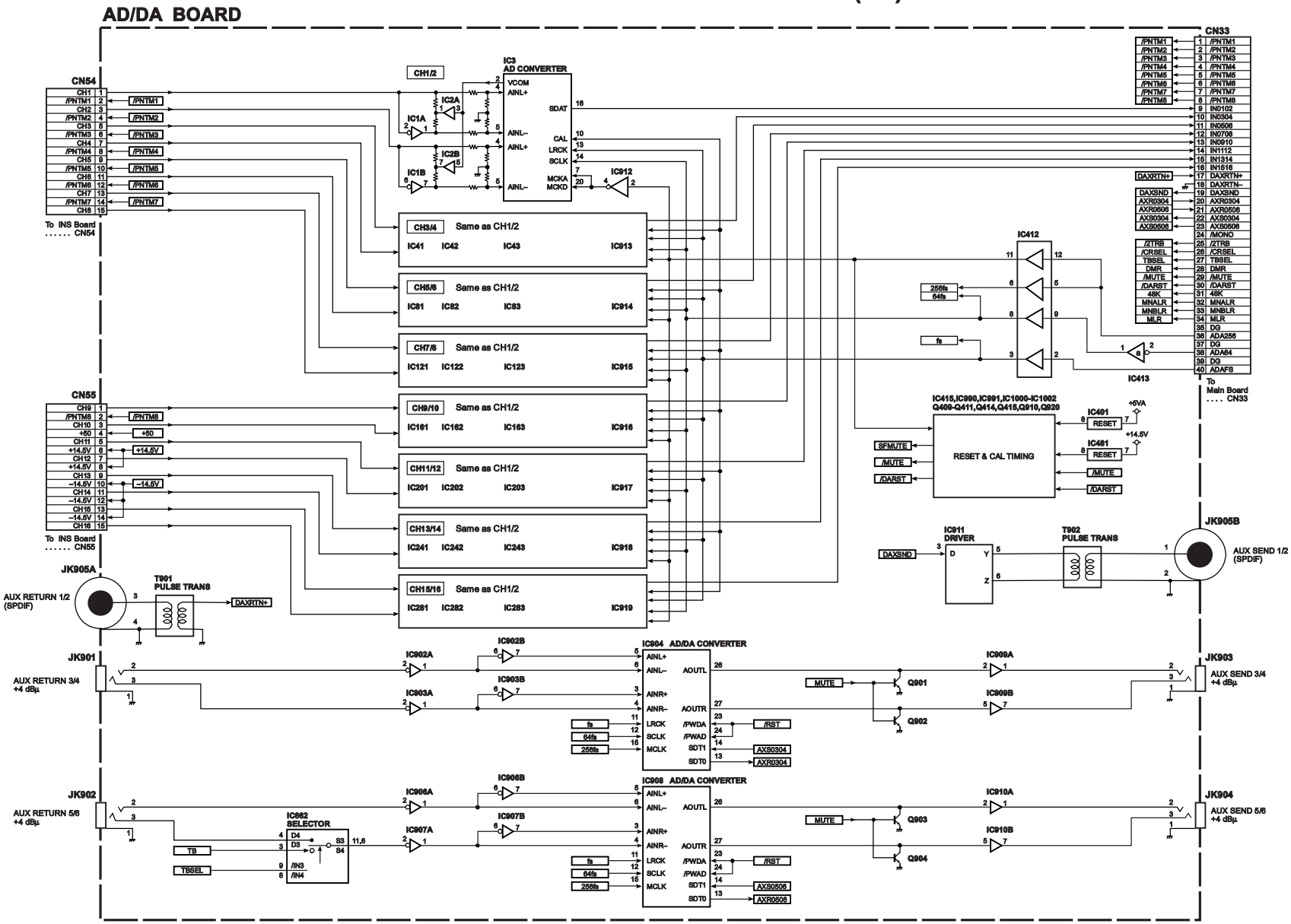


BLOCK DIAGRAM OF MAIN BOARD (AUDIO INTERFACE SECTION)

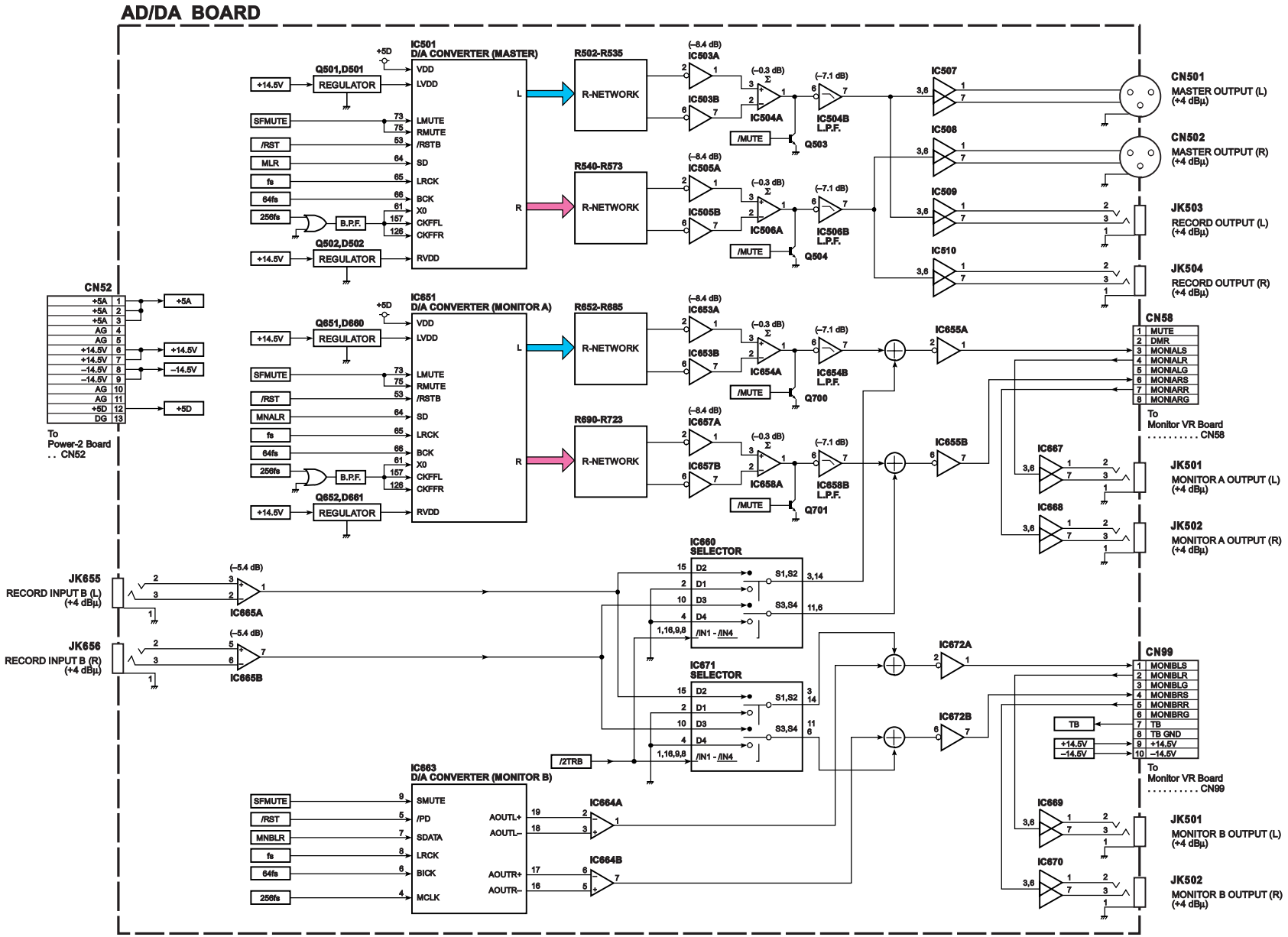
MAIN BOARD



BLOCK DIAGRAM OF AD/DA BOARD (1/2)

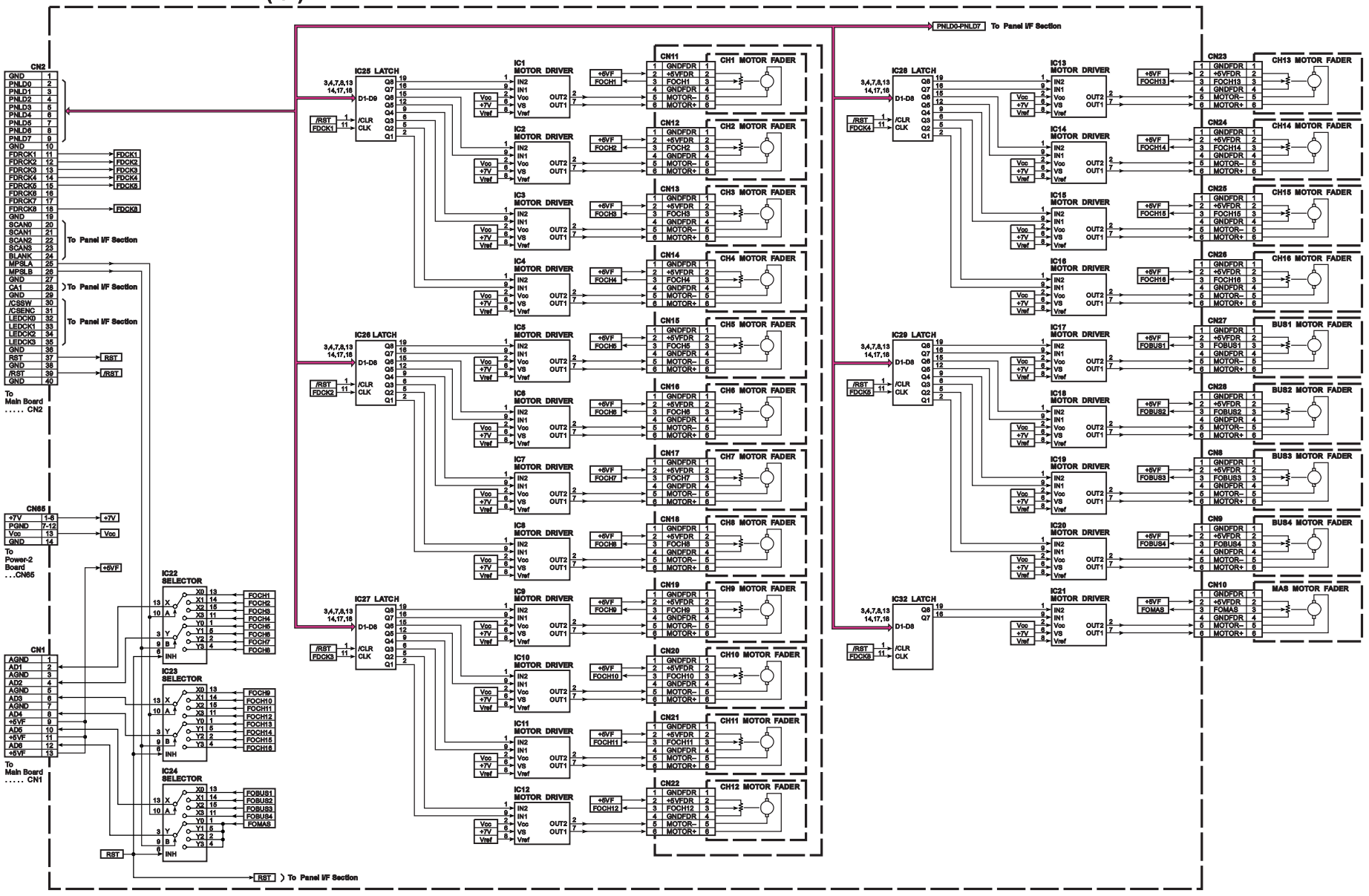


BLOCK DIAGRAM OF AD/DA BOARD (2/2)

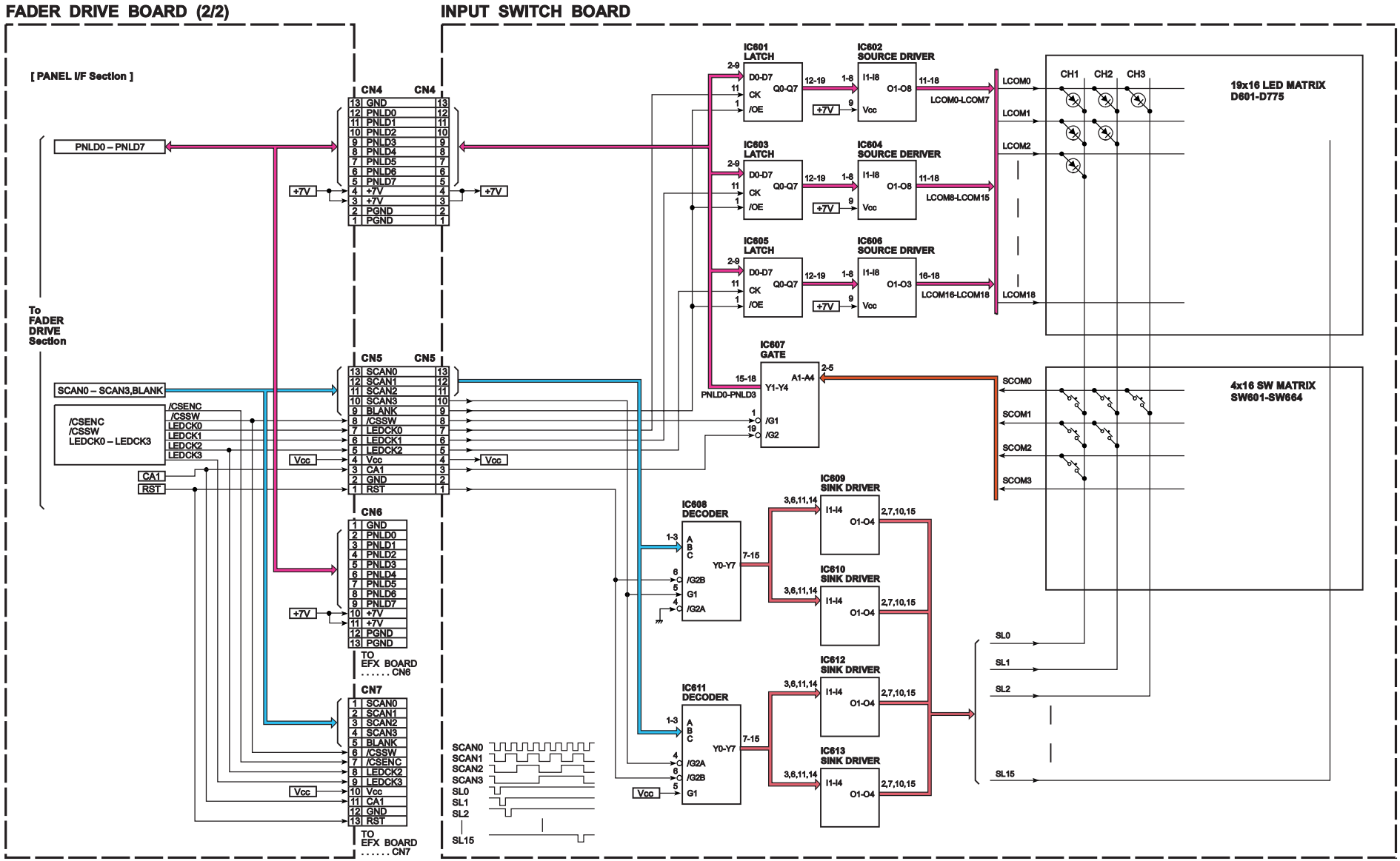


BLOCK DIAGRAM OF FADER DRIVE BOARD (1/2)

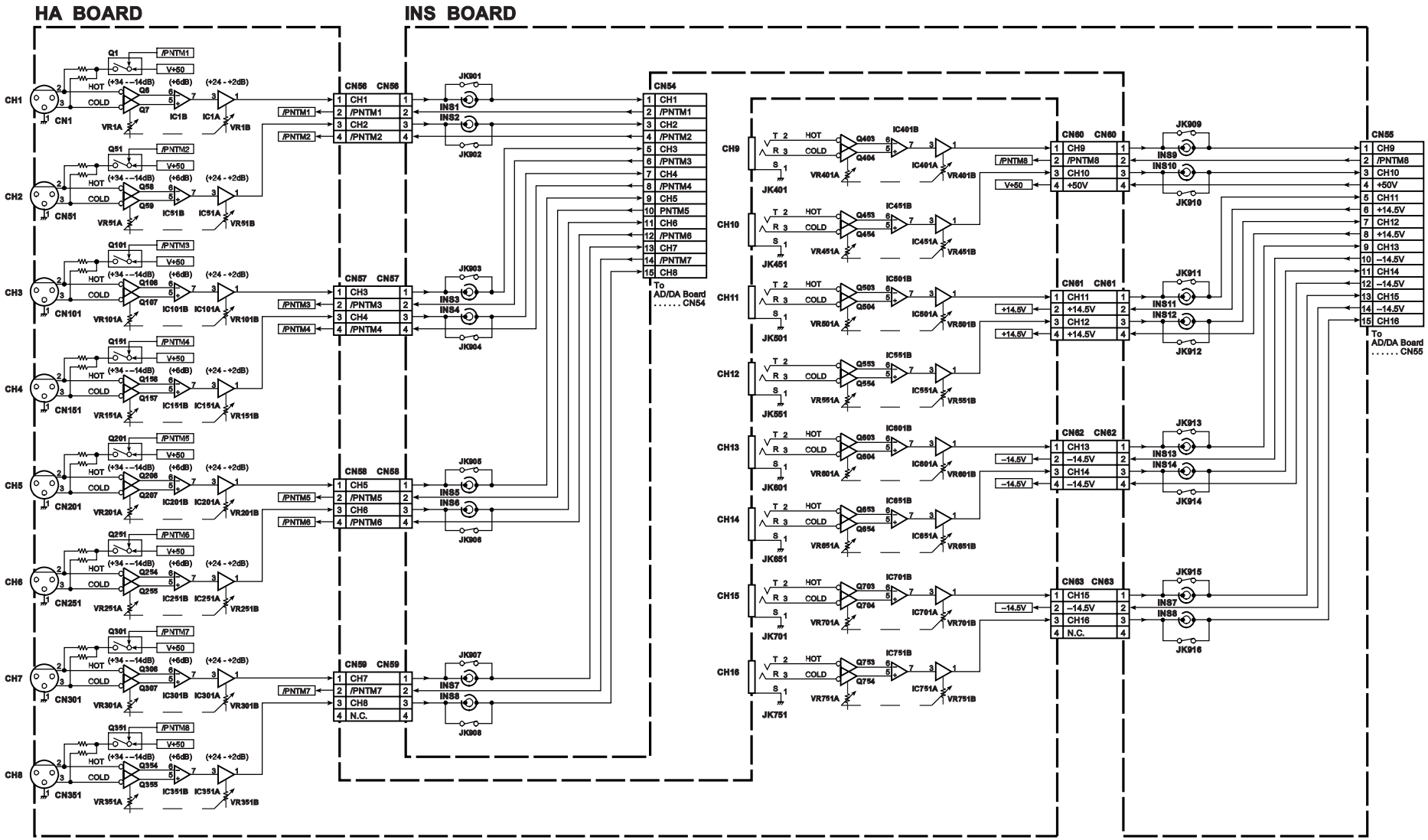
FADER DRIVE BOARD (1/2)



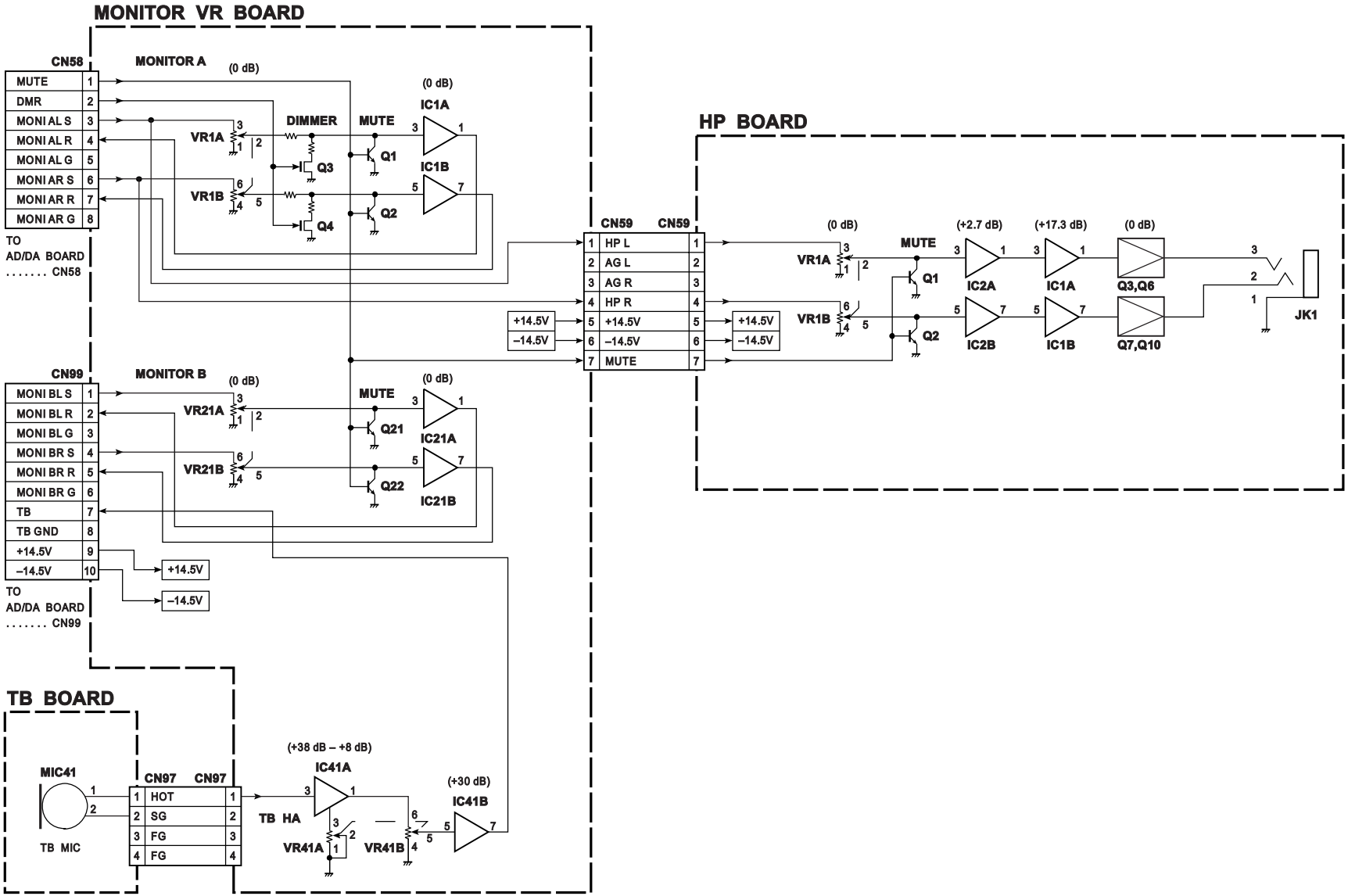
BLOCK DIAGRAM OF INPUT SWITCH BOARD / FADER DRIVE BOARD (2/2)



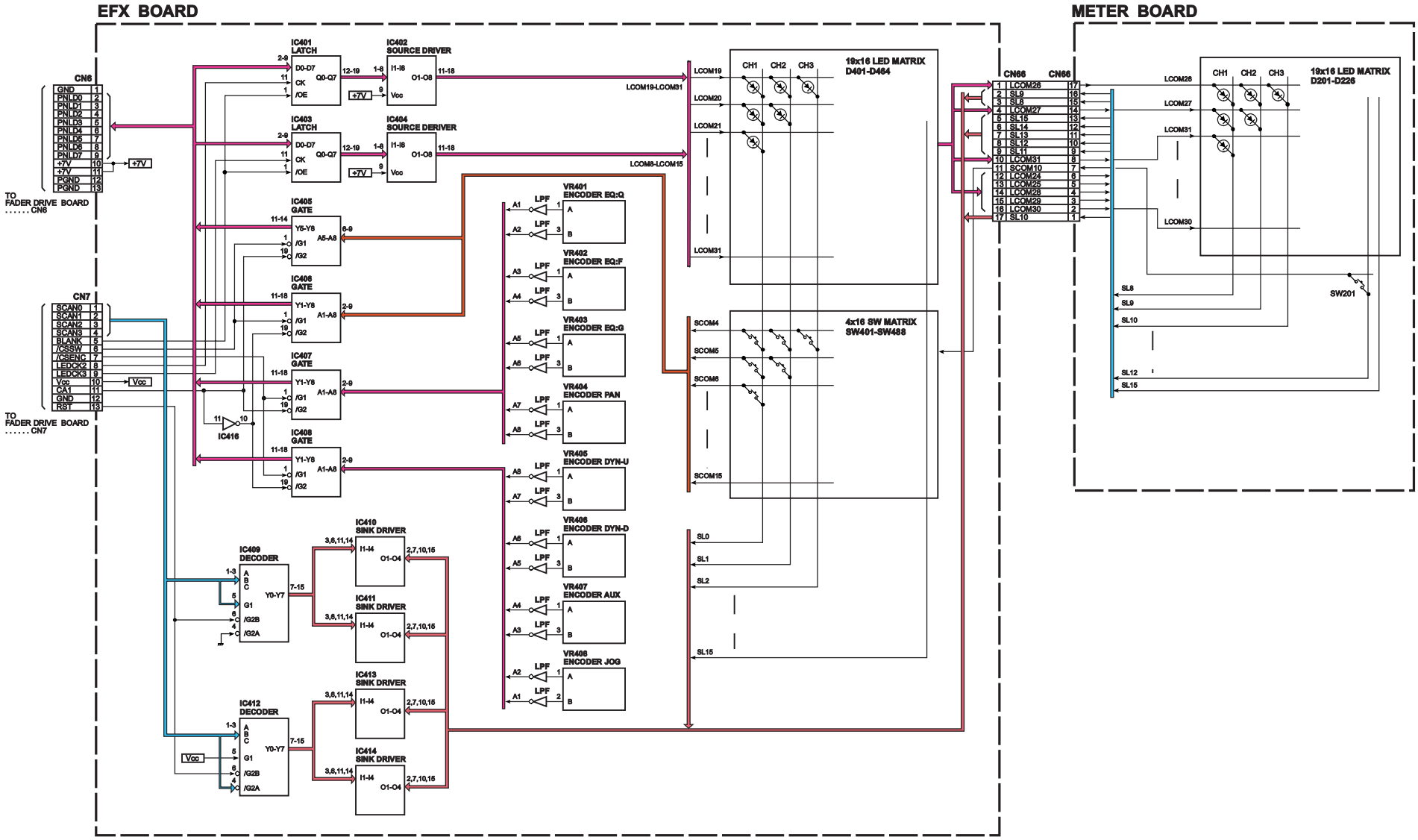
BLOCK DIAGRAM OF HA BOARD AND INS BOARD



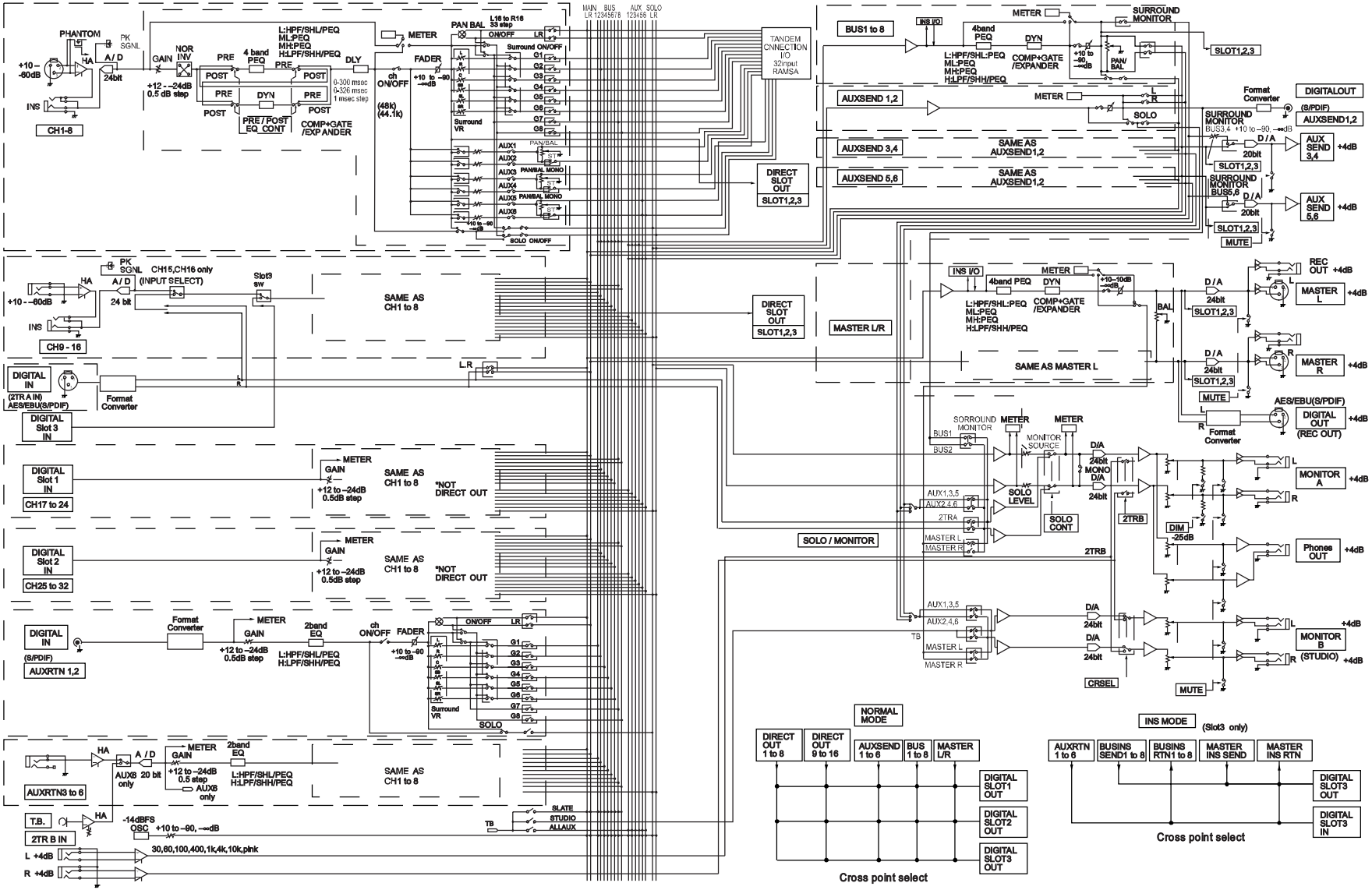
BLOCK DIAGRAM OF MONITOR VR / HP / TB BOARDS



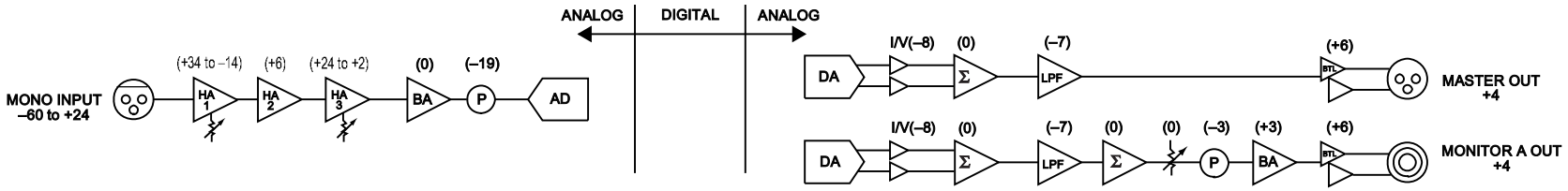
BLOCK DIAGRAM OF EFX BOARD

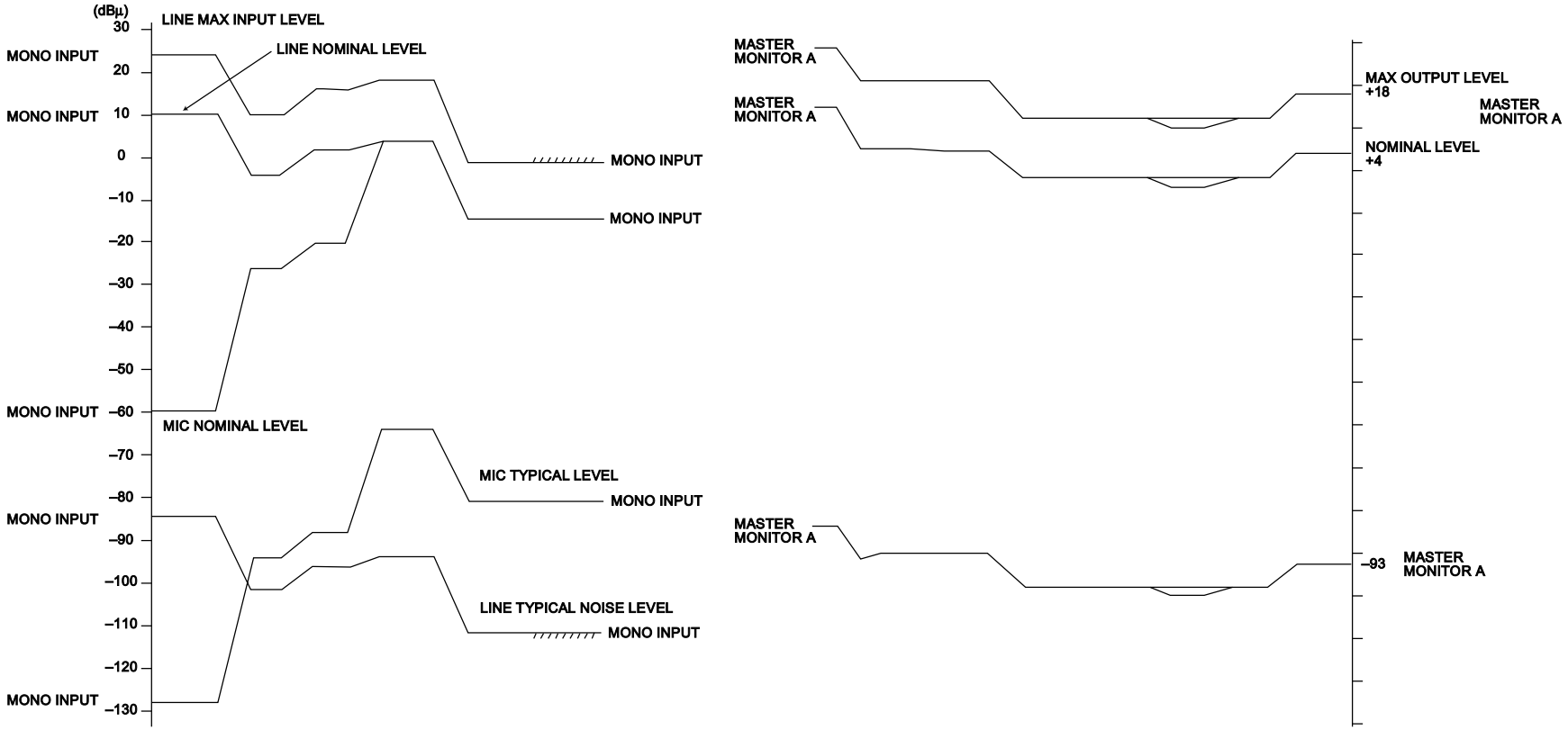


BLOCK DIAGRAM



LEVEL DIAGRAM

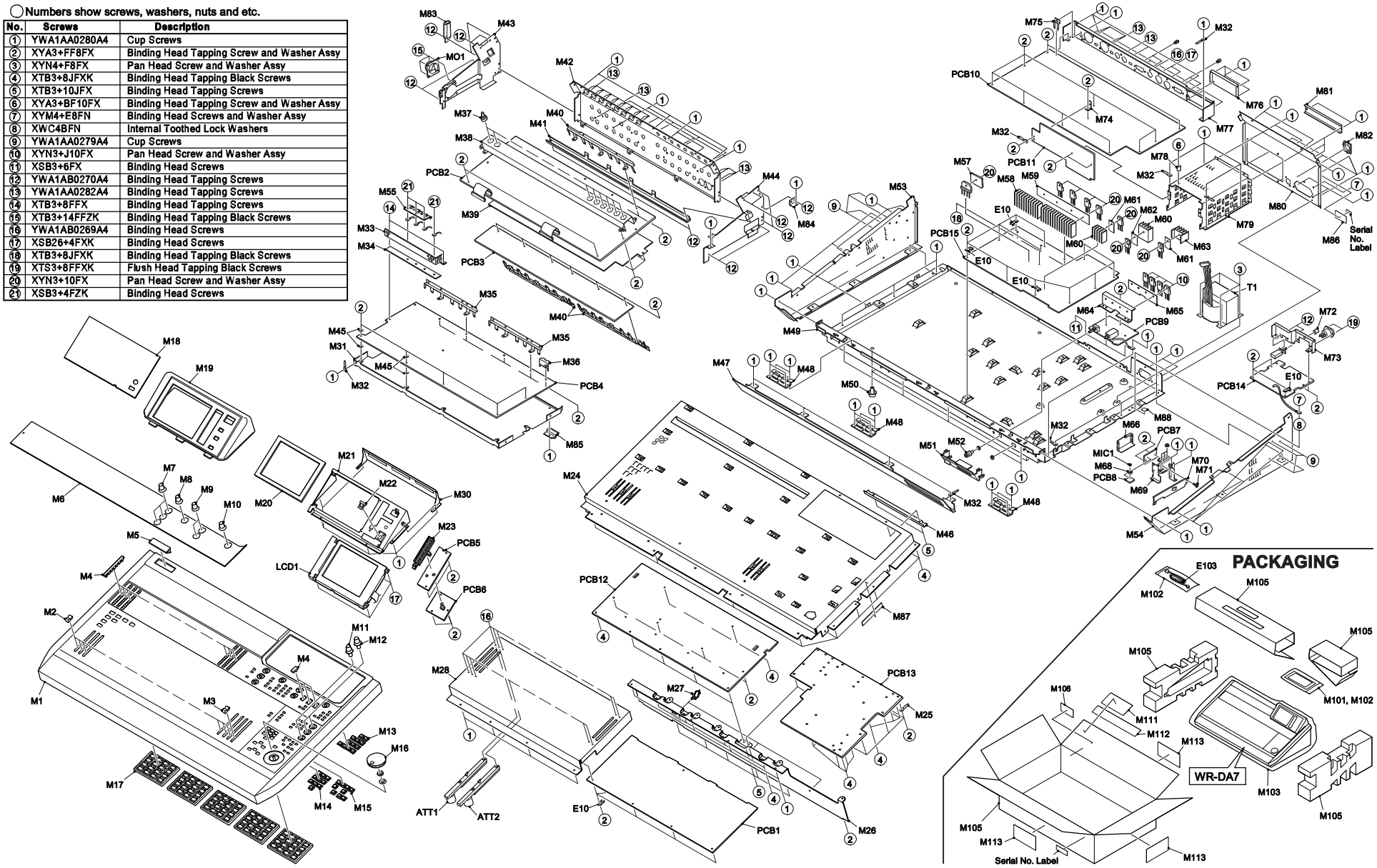




EXPLODED VIEW

◯Numbers show screws, washers, nuts and etc.

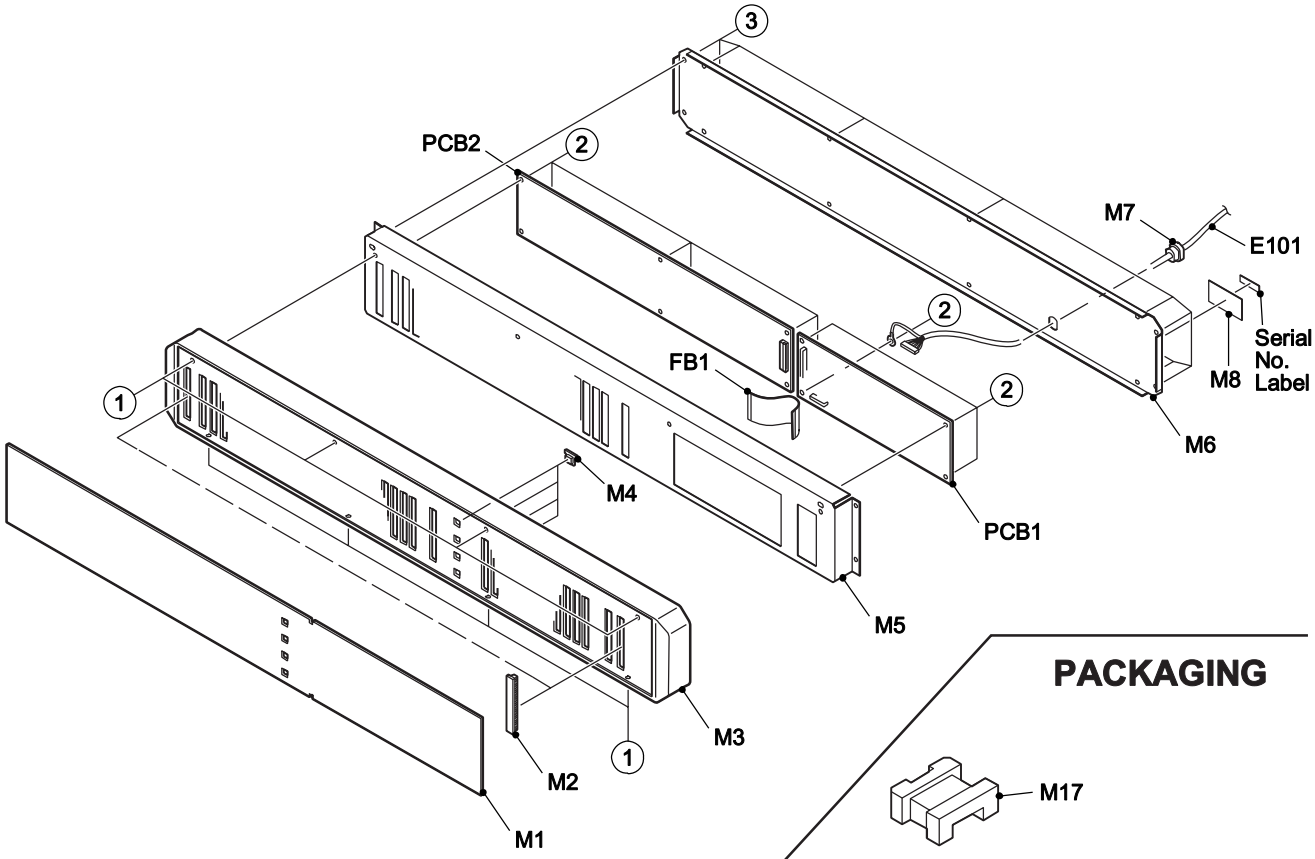
No.	Screws	Description
①	YWA1AA0280A4	Cup Screws
②	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy
③	XYN4+F8FX	Pan Head Screw and Washer Assy
④	XTB3+8JFXK	Binding Head Tapping Black Screws
⑤	XTB3+10JFX	Binding Head Tapping Screws
⑥	XYA3+BF10FX	Binding Head Tapping Screw and Washer Assy
⑦	XYM4+E8FN	Binding Head Screws and Washer Assy
⑧	XWC4BFN	Internal Toothed Lock Washers
⑨	YWA1AA0279A4	Cup Screws
⑩	XYN3+J10FX	Pan Head Screw and Washer Assy
⑪	XSB3+6FX	Binding Head Screws
⑫	YWA1AB0270A4	Binding Head Tapping Screws
⑬	YWA1AA0282A4	Binding Head Tapping Screws
⑭	XTB3+8FFX	Binding Head Tapping Screws
⑮	XTB3+14FFZK	Binding Head Tapping Black Screws
⑯	YWA1AB0269A4	Binding Head Screws
⑰	XSB26+4FXK	Binding Head Screws
⑱	XTB3+8JFXK	Binding Head Tapping Black Screws
⑲	XTS3+8FFXK	Flush Head Tapping Black Screws
⑳	XYN3+10FX	Pan Head Screw and Washer Assy
㉑	XSB3+4FZK	Binding Head Screws

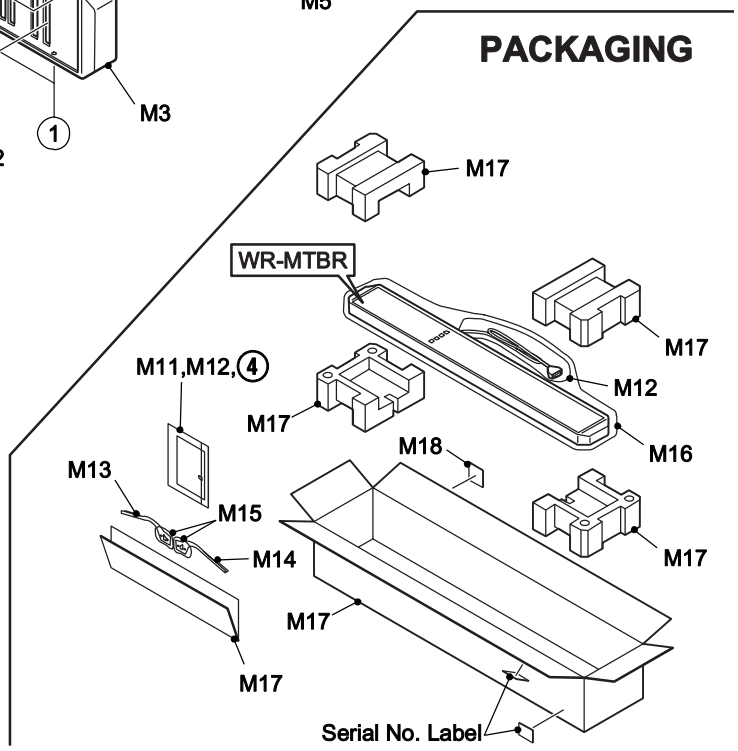


EXPLODED VIEW OF WR-MTBR

◯ Numbers show screws, etc.

No.	Screws	Description
①	XTB3+6FFZK	Binding Head Tapping Black Screws
②	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy
③	YWA1AA0280A4	Cup Black Screws
④	YWA1AA0279A4	Cup Black Screws

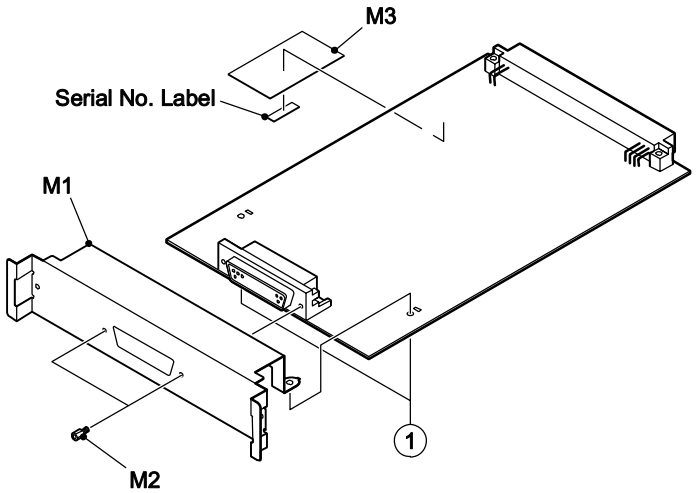




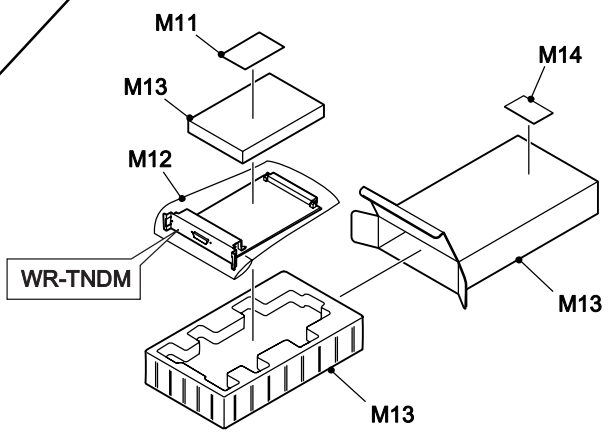
EXPLODED VIEW OF WR-TNDM

◯ Numbers show screws, etc.

No.	Screws	Description
①	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy



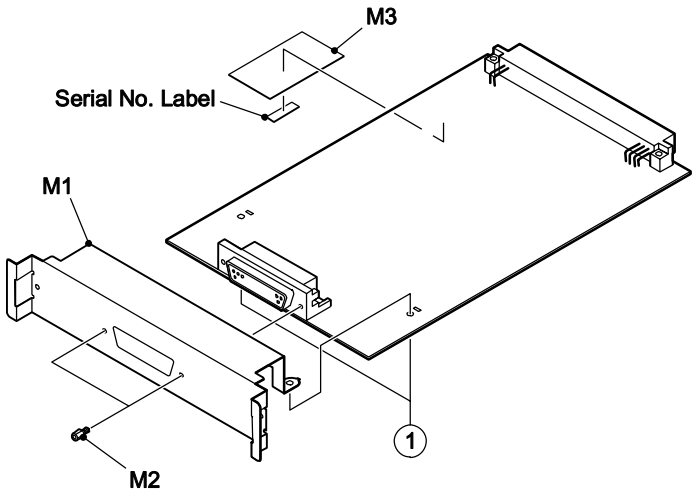
PACKAGING



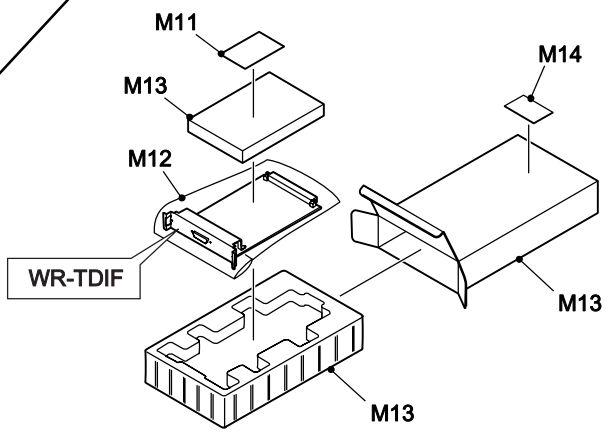
EXPLODED VIEW OF WR-TDIF

◯Numbers show screws, etc.

No.	Screws	Description
①	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy



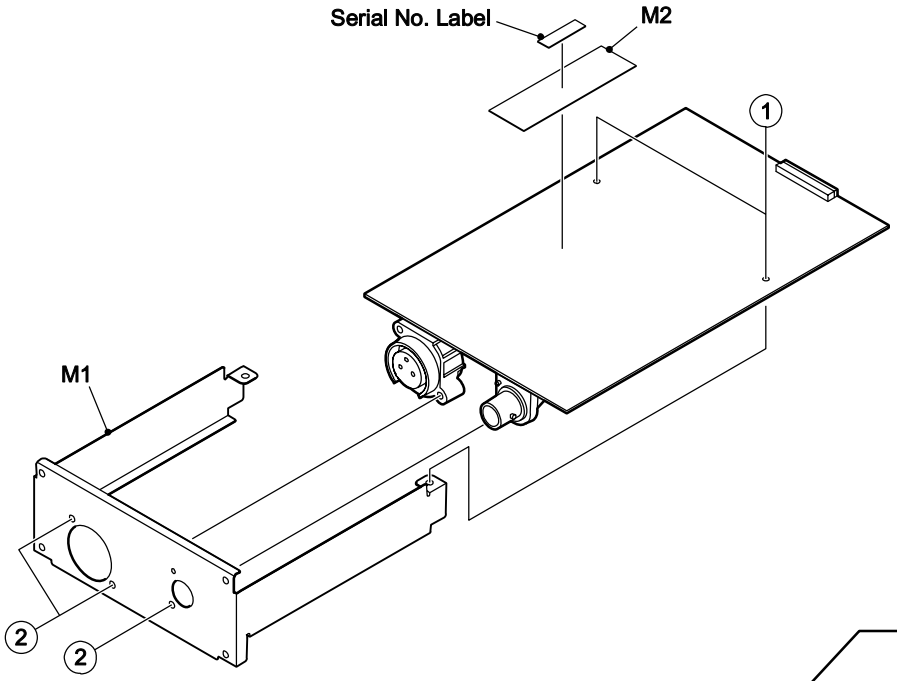
PACKAGING



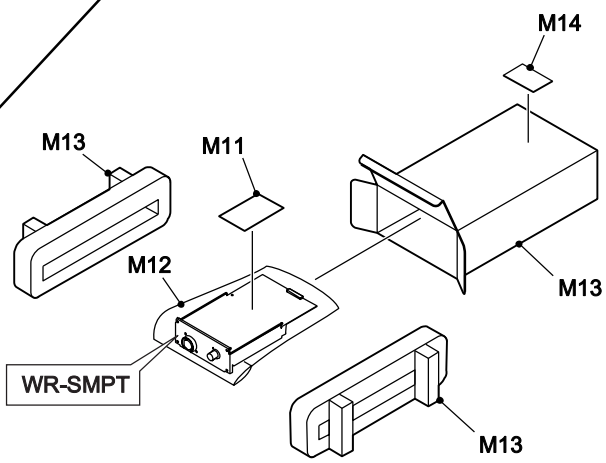
EXPLODED VIEW OF WR-SMPT

◯ Numbers show screws, etc.

No.	Screws	Description
①	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy
②	YWA1AA0282A4	Special Screws



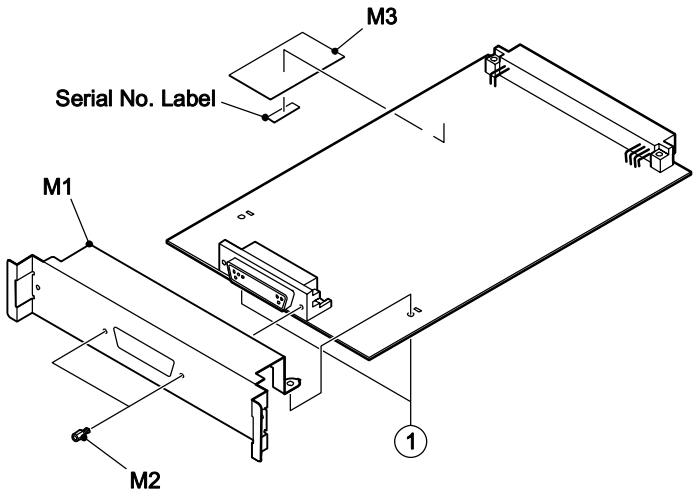
PACKAGING



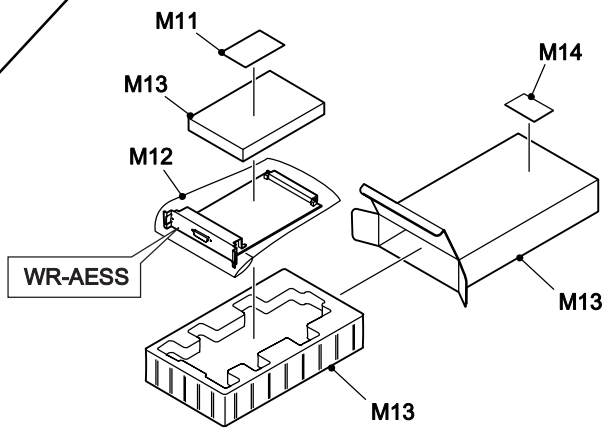
EXPLODED VIEW OF WR-AESS

◯ Numbers show screws, etc.

No.	Screws	Description
①	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy



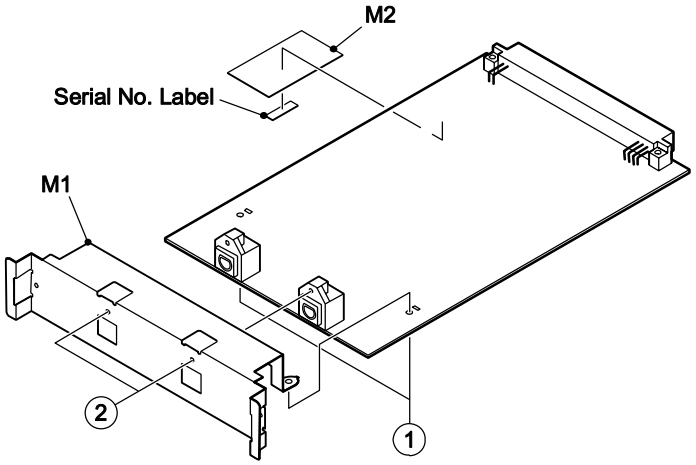
PACKAGING



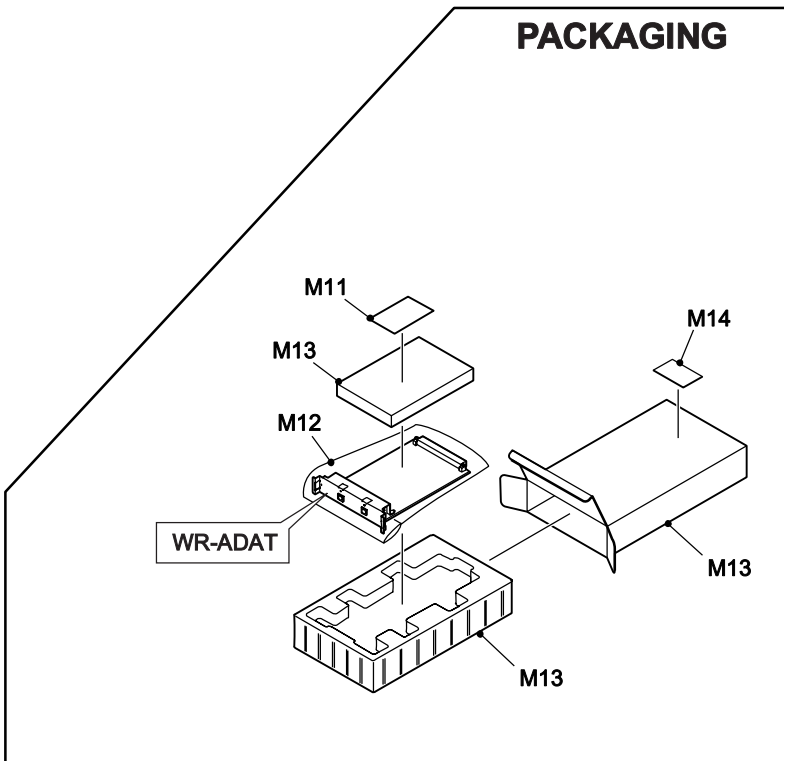
EXPLODED VIEW OF WR-ADAT

◯ Numbers show screws, etc.

No.	Screws	Description
①	XYA3+FF8FX	Binding Head Tapping Screw and Washer Assy
②	YWA1AA0282A4	Special Screws



PACKAGING



REPLACEMENT PARTS LIST

Important Notice

1. Components identified by " ⚠ " mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. RTL : Retention Time Limited (No longer available after discontinuing product).
3. REF. NO. Exx for Wire Assy, refer to Wiring Diagram on page 21.

REF. NO.		PART NO.	DESCRIPTION
WR-DA7			
MISCELLANEOUS			
ATT1		EVANMAP01B14	Attenuator
ATT2		EVANMEP01B14	Attenuator
MO1		YWAVA612LL5B	DC Motor
T1	⚠	YWAPTA1030A4	Power Transformer
F1	⚠	XBA2C40ET0A	Current Fuse 4A 250V
BAT1		YWCR2032	Battery
E1		YWAEJA0501A4	Insulator
E2		YW40ALJV30W	Wire Assy for Main Board CN2 and Fader Drive Board CN2
E5	⚠	YW840522	Insulator Fuse Cover
E32		YWRDA7L32	Wire Assy for Main Board CN32 and Inverter Board CN32
E33		YW40ALJV15W	Wire Assy for Main Board CN33 and AD/DA Board CN33
E58		YWRDA7L58A	Wire Ass'y for AD/DA Board CN58,CN99 and Monitor Board CN58,CN99
E62	⚠	YWRDA7L62A	Wire Assy for Power-1 Board CN62 and Power-2 Board CN62
E66		YW17AKJV08W	Wire Assy for Meter Board CN66 and EFX Board CN66
LCD1		YWLM32019T	LCD Unit
M1		YWA5WA2356C1	Panel
M2		YWA5RA1060B3	Knob
M3		YWA5RB1060B3	Knob
M4		YWA1VA0518A3	Lens
M5		YWA7PA1011A4	Badge
M6		YWA7SA3719B2	Panel Sheet
M7		YWA5RD1052A3	Knob
M8		YWA5RA1052A3	Knob
M9		YWA5RB1052A3	Knob
M10		YWA5RC1052A3	Knob
M11		YWA5RA1053A3	Knob
M12		YWA5RC1053A3	Knob
M13		YWA6JA1117A3	Button
M14		YWA6JA1119A3	Button
M15		YWA6JB1117A3	Button
M16		YWA5RA1061B3	Knob
M17		YWA6JA1118A2	Button
M18		YWA7SA3720B3	Label
M19		YWA5WA2363B1	Panel
M20		YWA2FA1151A4	Cushion

REF. NO.		PART NO.	DESCRIPTION
M21		YWA2SA4491A1	Mounting Angle
M22		YWA6JA1120A3	Button
M24		YWA2KB1197A1	Sub Chassis
M25		YWCS7	Cord Clamp
M26		YWA3BA1043A1	Supporting Angle
M27		YWA2GA0092A4	Cord Clamp (x30)
M28		YWA2SA4488A1	Mounting Angle for Father
M30		YWA2HA2159A3	Shield Plate
M31		YWA2KA1192A2	Sub Bottom Chassis
M32		YWCS1	Cord Clamp
M33		YWA7DA1077A3	Heat Sink
M34		YWA2PA1163A3	Insulator
M37		YWA5RA1054A3	Knob
M38		YWA3BA1037A2	Supporting Angle
M39		YWA2PA1142A4	Insulator
M41		YWA3BA1038A2	Supporting Angle
M42		YWA5WA2357A1	Rear Panel
M43		YWA2KA1190A2	Side L Chassis
M44		YWA2KA1191A2	Chassis
M45		YWA2PA1155A4	Insulator
M46		YWA2HA2160A3	Shield Plate
M47		YWA5EA2283A1	Cover
M48		YWA5QA0510A3	Hinge
M49		YWA2KB1193A1	Main Chassis
M50		YW1492AR	Rubber Foot
M51		YWA5WA2361A3	Panel
M52		YWA5RA1059A3	Knob
M53		YWA2KB1194A1	L Side Chassis
M54		YWA2KA1195B1	R Side Chassis
M55		YWA2QA1059A3	Support Angle
M66		YWA2HA2143B3	Shield Parts
M69		YWA2SA4490A3	Mounting Angle
M70		YWA5QA0511A3	Hinge
M71		YWE5100EM02	Standard Screw
M72		YWBM90HR02B	Knob
M74		YWA2SA4489A4	Mounting Angle
M76		YWA5WA2360A4	Panel
M78		YWA2NA1083A4	Spacer
M79		YWA2KA1196A1	Chassis
M80	⚠	YWA5WA2362A2	Panel
M81		YWA5WA2359A4	Panel
M82		YWA5DA0020A3	Ornament
M83		YWA2HA2161A4	Side Mounting Angle L
M84		YWA2SA4590A4	Side Mounting Angle R
M85		YWA2HA2158A4	Blank Plate

REF. NO.	PART NO.	DESCRIPTION
M86 ⚠	YWA7QA4846A4	Main Label for WR-DA7/B
	YWA7QA4845A4	Main Label for WR-DA7/G
M87	YWA7SA3748A4	Label

FADER DRIVE BOARD

PCB1 (RTL)	YWR00DA7KZ6A	Printed Circuit Board Assy
IC1-21	YWTA7291S	IC
IC22-24	MC74HC4052N	IC
IC25-29	MC74HC273AH	IC
IC32	MC74HC273AH	IC
IC54	NJM78L05A	IC
D1	YWERA1502AVR	Diode
D2	MA165	Diode
D3	YWERA1502AVR	Diode
D4	MA165	Diode
D5	YWERA1502AVR	Diode
D6	MA165	Diode
D7	YWERA1502AVR	Diode
D8	MA165	Diode
D9	YWERA1502AVR	Diode
D10	MA165	Diode
D11	YWERA1502AVR	Diode
D12	MA165	Diode
D13	YWERA1502AVR	Diode
D14	MA165	Diode
D15	YWERA1502AVR	Diode
D16	MA165	Diode
D17	YWERA1502AVR	Diode
D18	MA165	Diode
D19	YWERA1502AVR	Diode
D20	MA165	Diode
D21	YWERA1502AVR	Diode
D22	MA165	Diode
D23	YWERA1502AVR	Diode
D24	MA165	Diode
D25	YWERA1502AVR	Diode
D26	MA165	Diode
D27	YWERA1502AVR	Diode
D28	MA165	Diode
D29	YWERA1502AVR	Diode
D30	MA165	Diode
D31	YWERA1502AVR	Diode
D32	MA165	Diode
D33	YWERA1502AVR	Diode
D34	MA165	Diode
D35	YWERA1502AVR	Diode
D36	MA165	Diode
D37	YWERA1502AVR	Diode
D38	MA165	Diode
D39	YWERA1502AVR	Diode
D40	MA165	Diode
D41	YWERA1502AVR	Diode
D42	MA165	Diode
R45	ERDS2TJ223	Carbon 22K ohms 1/4W
R46	ERDS2TJ473	Carbon 47K ohms 1/4W
C1	ECQV1H104JZ	Plastic 0.1 µF 50V
C2	ECA1AHG102	Electrolytic 1000 µF 10V
C3	ECQV1H104JZ	Plastic 0.1 µF 50V
C4	ECA1CM102	Electrolytic 1000 µF 16V
C5	ECQV1H104JZ	Plastic 0.1 µF 50V
C7	ECQV1H104JZ	Plastic 0.1 µF 50V
C9	ECQV1H104JZ	Plastic 0.1 µF 50V
C11	ECQV1H104JZ	Plastic 0.1 µF 50V
C20	ECQV1H104JZ	Plastic 0.1 µF 50V
C21	ECA1CM221B	Electrolytic 220 µF 16V
C22,23	ECQV1H104JZ	Plastic 0.1 µF 50V
C25,26	ECQV1H104JZ	Plastic 0.1 µF 50V
C29	ECQV1H104JZ	Plastic 0.1 µF 50V
C31	ECQV1H104JZ	Plastic 0.1 µF 50V
C33	ECQV1H104JZ	Plastic 0.1 µF 50V
C35	ECQV1H104JZ	Plastic 0.1 µF 50V
C37-56	ECQV1H104JZ	Plastic 0.1 µF 50V
C59	ECQV1H104JZ	Plastic 0.1 µF 50V
C62	ECQV1H104JZ	Plastic 0.1 µF 50V
C65	ECQV1H104JZ	Plastic 0.1 µF 50V
C68,69	ECQV1H104JZ	Plastic 0.1 µF 50V
C72	ECQV1H104JZ	Plastic 0.1 µF 50V
C75	ECQV1H104JZ	Plastic 0.1 µF 50V
C78	ECQV1H104JZ	Plastic 0.1 µF 50V
C81	ECQV1H104JZ	Plastic 0.1 µF 50V
C84	ECQV1H104JZ	Plastic 0.1 µF 50V
C87	ECQV1H104JZ	Plastic 0.1 µF 50V
C90	ECQV1H104JZ	Plastic 0.1 µF 50V
C93	ECQV1H104JZ	Plastic 0.1 µF 50V
C96	ECQV1H104JZ	Plastic 0.1 µF 50V
C97	YWECA1CM102B	Electrolytic 1000 µF 16V
C98-100	ECQV1H104JZ	Plastic 0.1 µF 50V
C107,108	ECKF1H103ZF	Ceramic 0.01 µF 50V
C109,110	ECQV1H104JZ	Plastic 0.1 µF 50V
C112-132	ECQV1H104JZ	Plastic 0.1 µF 50V
C137	ECKF1H103ZF	Ceramic 0.01 µF 50V
L1	YWZBF503S03B	Coil
CN1	YW510481300	13-pin Connector
CN2	YW520444010	40-pin Connector
CN4-7	YW521511310	13-pin Connector

REF. NO.	PART NO.	DESCRIPTION
CN8-28	YWS6BPHKS	6-pin Connector
CN65	YW521471410	14-pin Connector
E1	YWRDA7L01	Wire Assy for Main Board CN1
E10	YWA2QA0134A4	Electrode
E56-63	RDA7L56	Wire Assy
HA BOARD		
PCB2 (RTL)	YWR00DA7KB5A	Printed Circuit Board Assy
IC1,51	YWUPC4570G	IC
IC101,151	YWUPC4570G	IC
IC201,251	YWUPC4570G	IC
IC301,351	YWUPC4570G	IC
IC401,451	YWUPC4570G	IC
IC501,551	YWUPC4570G	IC
IC601,651	YWUPC4570G	IC
IC701,751	YWUPC4570G	IC
Q1	2SC4102	Transistor
Q2	2SK374-RS	Transistor
Q3	2SC4102	Transistor
Q4,5	2SC4081	Transistor
Q6,7	2SC2545-E	Transistor
Q51	2SC4102	Transistor
Q52	2SK374-RS	Transistor
Q53	2SC4102	Transistor
Q56,57	2SC4081	Transistor
Q58,59	2SC2545-E	Transistor
Q101	2SC4102	Transistor
Q102	2SK374-RS	Transistor
Q103	2SC4102	Transistor
Q104,105	2SC4081	Transistor
Q106,107	2SC2545-E	Transistor
Q151	2SC4102	Transistor
Q152	2SK374-RS	Transistor
Q153	2SC4102	Transistor
Q154,155	2SC4081	Transistor
Q156,157	2SC2545-E	Transistor
Q201	2SC4102	Transistor
Q202	2SK374-RS	Transistor
Q203	2SC4102	Transistor
Q204,205	2SC4081	Transistor
Q206,207	2SC2545-E	Transistor
Q251	2SC4102	Transistor
Q252	2SK374-RS	Transistor
Q253	2SC4102	Transistor
Q254,255	2SC2545-E	Transistor
Q256,257	2SC4081	Transistor
Q301	2SC4102	Transistor

REF. NO.	PART NO.	DESCRIPTION	
Q302	2SK374-RS	Transistor	
Q303	2SC4102	Transistor	
Q304,305	2SC4081	Transistor	
Q306,307	2SC2545-E	Transistor	
Q351	2SC4102	Transistor	
Q352	2SK374-RS	Transistor	
Q353	2SC4102	Transistor	
Q354,355	2SC2545-E	Transistor	
Q356,357	2SC4081	Transistor	
Q401,402	2SC4081	Transistor	
Q403,404	2SC2545-E	Transistor	
Q451,452	2SC4081	Transistor	
Q453,454	2SC2545-E	Transistor	
Q501,502	2SC4081	Transistor	
Q503,504	2SC2545-E	Transistor	
Q551,552	2SC4081	Transistor	
Q553,554	2SC2545-E	Transistor	
Q601,602	2SC4081	Transistor	
Q603,604	2SC2545-E	Transistor	
Q651,652	2SC4081	Transistor	
Q653,654	2SC2545-E	Transistor	
Q701,702	2SC4081	Transistor	
Q703,704	2SC2545-E	Transistor	
Q751,752	2SC4081	Transistor	
Q753,754	2SC2545-E	Transistor	
D1	MA142K	Diode	
D2	MA143	Diode	
D51	MA142K	Diode	
D52	MA143	Diode	
D101	MA142K	Diode	
D102	MA143	Diode	
D151	MA142K	Diode	
D152	MA143	Diode	
D201	MA142K	Diode	
D202	MA143	Diode	
D251	MA142K	Diode	
D252	MA143	Diode	
D301	MA142K	Diode	
D302	MA143	Diode	
D351	MA142K	Diode	
D352,401	MA143	Diode	
D451,501	MA143	Diode	
D551,601	MA143	Diode	
D651,701	MA143	Diode	
D751	MA143	Diode	
D752-759	YW1SS355	Diode	
R1,2	YWR1220P682D	Metal	6.8K ohms
R3	YFR1220P104D	Metal	100K ohms
R4	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R7,8	YWR1220P100D	Metal	10 ohms

REF. NO.	PART NO.	DESCRIPTION	
R9,10	YWR1220P103D	Metal	10K ohms
R11,12	YWR1220P391D	Metal	390 ohms
R13	YWR1220P100D	Metal	10 ohms
R14,15	YWR1220P102D	Metal	1K ohms
R16	R1220P822D	Metal	8.2K ohms
R18,19	R1220P1911D	Metal	1.91K ohms
R20	YWR1220P473D	Metal	47K ohms
R21	YWR1220P181D	Metal	180 ohms
R22	YWR1220P272D	Metal	2.7K ohms
R23-25	YWR1220P473D	Metal	47K ohms
R26	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R27	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R51,52	YWR1220P682D	Metal	6.8K ohms
R53	YFR1220P104D	Metal	100K ohms
R54	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R57,58	YWR1220P100D	Metal	10 ohms
R59,60	YWR1220P103D	Metal	10K ohms
R61,62	YWR1220P391D	Metal	390 ohms
R63	YWR1220P100D	Metal	10 ohms
R64,65	YWR1220P102D	Metal	1K ohms
R66	R1220P822D	Metal	8.2K ohms
R68,69	YWR1220P1911D	Metal	1.91K ohms
R70	YWR1220P473D	Metal	47K ohms
R71	YWR1220P181D	Metal	180 ohms
R72	YWR1220P272D	Metal	2.7K ohms
R73-75	YWR1220P473D	Metal	47K ohms
R76	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R77	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R101,102	YWR1220P682D	Metal	6.8K ohms
R103	YFR1220P104D	Metal	100K ohms
R104	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R107,108	YWR1220P100D	Metal	10 ohms
R109,110	YWR1220P103D	Metal	10K ohms
R111,112	YWR1220P391D	Metal	390 ohms
R113	YWR1220P100D	Metal	10 ohms
R114,115	YWR1220P102D	Metal	1K ohms
R116	R1220P822D	Metal	8.2K ohms
R118,119	R1220P1911D	Metal	1.91K ohms
R120	YWR1220P473D	Metal	47K ohms
R121	YWR1220P181D	Metal	180 ohms
R122	YWR1220P272D	Metal	2.7K ohms
R123-125	YWR1220P473D	Metal	47K ohms
R126	ERJ6GEYJ101	Carbon	100 ohms
R127	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R151,152	YWR1220P682D	Metal	6.8K ohms
R153	YFR1220P104D	Metal	100K ohms
R154	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R157,158	YWR1220P100D	Metal	10 ohms
R159,160	YWR1220P103D	Metal	10K ohms
R161,162	YWR1220P391D	Metal	390 ohms

REF. NO.	PART NO.	DESCRIPTION	
R163	YWR1220P100D	Metal	10 ohms
R164,165	YWR1220P102D	Metal	1K ohms
R166	R1220P822D	Metal	8.2K ohms
R168,169	R1220P1911D	Metal	1.91K ohms
R170	YWR1220P473D	Metal	47K ohms
R171	YWR1220P181D	Metal	180 ohms
R172	YWR1220P272D	Metal	2.7K ohms
R173-175	YWR1220P473D	Metal	47K ohms
R176	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R177	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R201,202	YWR1220P682D	Metal	6.8K ohms
R203	YFR1220P104D	Metal	100K ohms
R204	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R207,208	YWR1220P100D	Metal	10 ohms
R209,210	YWR1220P103D	Metal	10K ohms
R211,212	YWR1220P391D	Metal	390 ohms
R213	YWR1220P100D	Metal	10 ohms
R214,215	YWR1220P102D	Metal	1K ohms
R216	YWR1220P822D	Metal	8.2K ohms
R218,219	R1220P1911D	Metal	1.91K ohms
R220	YWR1220P473D	Metal	47K ohms
R221	YWR1220P181D	Metal	180 ohms
R222	YWR1220P272D	Metal	2.7K ohms
R223-225	YWR1220P473D	Metal	47K ohms
R226	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R227	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R251,252	YWR1220P682D	Metal	6.8K ohms
R253	YFR1220P104D	Metal	100K ohms
R254	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R257,258	YWR1220P100D	Metal	10 ohms
R259,260	YWR1220P103D	Metal	10K ohms
R261,262	YWR1220P391D	Metal	390 ohms
R263	YWR1220P100D	Metal	10 ohms
R264,265	YWR1220P102D	Metal	1K ohms
R266	R1220P822D	Metal	8.2K ohms
R268,269	R1220P1911D	Metal	1.91K ohms
R270	YWR1220P473D	Metal	47K ohms
R271	YWR1220P181D	Metal	180ohms
R272	YWR1220P272D	Metal	2.7K ohms
R273-275	YWR1220P473D	Metal	47K ohms
R276	ERJ6GEYJ101	Carbon	100 ohms
R277	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R301,302	YWR1220P682D	Metal	6.8K ohms
R303	YFR1220P104D	Metal	100K ohms
R304	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R307,308	YWR1220P100D	Metal	10 ohms
R309,310	YWR1220P103D	Metal	10K ohms
R311,312	YWR1220P391D	Metal	390 ohms
R313	YWR1220P100D	Metal	10 ohms
R314,315	YWR1220P102D	Metal	1K ohms

REF. NO.	PART NO.	DESCRIPTION	
R316	R1220P822D	Metal	8.2K ohms
R318,319	R1220P1911D	Metal	1.91K ohms
R320	YWR1220P473D	Metal	47K ohms
R321	YWR1220P181D	Metal	180 ohms
R322	YWR1220P272D	Metal	2.7K ohms
R323-325	YWR1220P473D	Metal	47K ohms
R326	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R327	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R351,352	YWR1220P682D	Metal	6.8K ohms
R353	YFR1220P104D	Metal	100K ohms
R354	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R357,358	YWR1220P100D	Metal	10 ohms
R359,360	YWR1220P103D	Metal	10K ohms
R361,362	YWR1220P391D	Metal	390 ohms
R363	YWR1220P100D	Metal	10 ohms
R364,365	YWR1220P102D	Metal	1K ohms
R366	R1220P822D	Metal	8.2K ohms
R368,369	R1220P1911D	Metal	1.91K ohms
R370	YWR1220P473D	Metal	47K ohms
R371	YWR1220P181D	Metal	180 ohms
R372	YWR1220P272D	Metal	2.7K ohms
R373-375	YWR1220P473D	Metal	47K ohms
R376	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R377	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R403,404	YWR1220P103D	Metal	10K ohms
R405,406	YWR1220P100D	Metal	10 ohms
R407,408	YWR1220P391D	Metal	390 ohms
R409	YWR1220P100D	Metal	10 ohms
R410,411	YWR1220P102D	Metal	1K ohms
R412	R1220P822D	Metal	8.2K ohms
R414,415	R1220P1911D	Metal	1.91K ohms
R416	YWR1220P473D	Metal	47K ohms
R417	YWR1220P181D	Metal	180 ohms
R418	YWR1220P272D	Metal	2.7K ohms
R419-421	YWR1220P473D	Metal	47K ohms
R453,454	YWR1220P103D	Metal	10K ohms
R455,456	YWR1220P100D	Metal	10 ohms
R457,458	YWR1220P391D	Metal	390 ohms
R459	YWR1220P100D	Metal	10 ohms
R460,461	YWR1220P102D	Metal	1K ohms
R462	R1220P822D	Metal	8.2K ohms
R464,465	R1220P1911D	Metal	1.91K ohms
R466	YWR1220P473D	Metal	47K ohms
R467	YWR1220P181	Metal	180 ohms
R468	YWR1220P272D	Metal	2.7K ohms
R469-471	YWR1220P473D	Metal	47K ohms
R503,504	YWR1220P103D	Metal	10K ohms
R505,506	YWR1220P100D	Metal	10 ohms
R507,508	YWR1220P391D	Metal	390 ohms
R509	YWR1220P100D	Metal	10 ohms

REF. NO.	PART NO.	DESCRIPTION	
R510,511	YWR1220P102D	Metal	1K ohms
R512	R1220P822D	Metal	8.2K ohms
R514,515	R1220P1911D	Metal	1.91K ohms
R516	YWR1220P473D	Metal	47K ohms
R517	YWR1220P181	Metal	180 ohms
R518	YWR1220P272D	Metal	2.7K ohms
R519-521	YWR1220P473D	Metal	47K ohms
R553,554	YWR1220P103D	Metal	10K ohms
R555,556	YWR1220P100D	Metal	10 ohms
R557,558	YWR1220P391D	Metal	390 ohms
R559	YWR1220P100D	Metal	10 ohms
R560,561	YWR1220P102D	Metal	1K ohms
R562	R1220P822D	Metal	8.2K ohms
R564,565	R1220P1911D	Metal	1.91K ohms
R566	YWR1220P473D	Metal	47K ohms
R567	YWR1220P181	Metal	180 ohms
R568	YWR1220P272D	Metal	2.7K ohms
R569-571	YWR1220P473D	Metal	47K ohms
R603,604	YWR1220P103D	Metal	10K ohms
R605,606	YWR1220P100D	Metal	10 ohms
R607,608	YWR1220P391D	Metal	390 ohms
R609	YWR1220P100D	Metal	10 ohms
R610,611	YWR1220P102D	Metal	1K ohms
R612	R1220P822D	Metal	8.2K ohms
R614,615	R1220P1911D	Metal	1.91K ohms
R616	YWR1220P473D	Metal	47K ohms
R617	YWR1220P181	Metal	180 ohms
R618	YWR1220P272D	Metal	2.7K ohms
R619-621	YWR1220P473D	Metal	47K ohms
R653,654	YWR1220P103D	Metal	10K ohms
R655,656	YWR1220P100D	Metal	10 ohms
R657,658	YWR1220P391D	Metal	390 ohms
R659	YWR1220P100D	Metal	10 ohms
R660,661	YWR1220P102D	Metal	1K ohms
R662	R1220P822D	Metal	8.2K ohms
R664,665	R1220P1911D	Metal	1.91K ohms
R666	YWR1220P473D	Metal	47K ohms
R667	YWR1220P181	Metal	180 ohms
R668	YWR1220P272D	Metal	2.7K ohms
R669-671	YWR1220P473D	Metal	47K ohms
R703,704	YWR1220P103D	Metal	10K ohms
R705,706	YWR1220P100D	Metal	10 ohms
R707,708	YWR1220P391D	Metal	390 ohms
R709	YWR1220P100D	Metal	10 ohms
R710,711	YWR1220P102D	Metal	1K ohms
R712	R1220P822D	Metal	8.2K ohms
R714,715	R1220P1911D	Metal	1.91K ohms
R716	YWR1220P473D	Metal	47K ohms
R717	YWR1220P181	Metal	180 ohms
R718	YWR1220P272D	Metal	2.7K ohms

REF. NO.	PART NO.	DESCRIPTION	
R719-721	YWR1220P473D	Metal	47K ohms
R753,754	YWR1220P103D	Metal	10K ohms
R755,756	YWR1220P100D	Metal	10 ohms
R757,758	YWR1220P391D	Metal	390 ohms
R759	YWR1220P100D	Metal	10 ohms
R760,761	YWR1220P102D	Metal	1K ohms
R762	R1220P822D	Metal	8.2K ohms
R764,765	R1220P1911D	Metal	1.91K ohms
R766	YWR1220P473D	Metal	47K ohms
R767	YWR1220P181	Metal	180 ohms
R768	YWR1220P272D	Metal	2.7K ohms
R769-771	YWR1220P473D	Metal	47K ohms
R951-957	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R978	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R981-988	ERJ6GEYJ333	Carbon	33K ohms 1/10W
VR1,51	EVJYAQF30730	Variable Resistor	10K ohms
VR101,151	EVJYAQF30730	Variable Resistor	10K ohms
VR201,251	EVJYAQF30730	Variable Resistor	10K ohms
VR301,351	EVJYAQF30730	Variable Resistor	10K ohms
VR401,451	EVJYAQF30730	Variable Resistor	10K ohms
VR501,551	EVJYAQF30730	Variable Resistor	10K ohms
VR601,651	EVJYAQF30730	Variable Resistor	10K ohms
VR701,751	EVJYAQF30730	Variable Resistor	10K ohms
C0	YW400104XK	Ceramic	0.1 µF
C1,2	YF400101CHJT	Ceramic	100 pF
C3,4	YWR2063T470	Electrolytic	47 µF 63V
C5	ECA1JM100	Electrolytic	10 µF 63V
C6,7	YF400101CHJT	Ceramic	100 pF
C8	YWRA26T471	Electrolytic	470 µF 6V
C10,11	YF400221CHJT	Ceramic	220 pF
C13	YWRA26T471	Electrolytic	470 µF 6V
C14	YF400221CHJT	Ceramic	220 pF
C15,16	ECHU1H104JB9	Plastic	0.1 µF 50V
C17,18	YWR2025T101	Electrolytic	100 µF 25V
C20,21	RA216V330T58	Electrolytic	33 µF 16V
C51,52	YF400101CHJT	Ceramic	100 pF
C53,54	YWR2063T470	Electrolytic	47 µF 63V
C55	ECA1JM100	Electrolytic	10 µF 63V
C56,57	YF400101CHJT	Ceramic	100 pF
C58	YWRA26T471	Electrolytic	470 µF 6V
C60,61	YF400221CHJT	Ceramic	220 pF
C63	YWRA26T471	Electrolytic	470 µF 6V
C64	YF400221CHJT	Ceramic	220 pF
C65,66	ECHU1H104JB9	Plastic	0.1 µF 50V
C67,68	YWR2025T101	Electrolytic	100 µF 25V
C70,71	RA216V330T58	Electrolytic	33 µF 16V
C101,102	YF400101CHJT	Ceramic	100 pF
C103,104	YWR2063T470	Electrolytic	47 µF 63V
C105	ECA1JM100	Electrolytic	10 µF 63V
C106,107	YF400101CHJT	Ceramic	100 pF

REF. NO.	PART NO.	DESCRIPTION	
C108	YWRA26T471	Electrolytic	470 µF 6V
C110,111	YF400221CHJT	Ceramic	220 pF
C113	YWRA26T471	Electrolytic	470 µF 6V
C114	YF400221CHJT	Ceramic	220 pF
C115,116	ECHU1H104JB9	Plastic	0.1 µF 50V
C117,118	YWR2025T101	Electrolytic	100 µF 25V
C120,121	RA216V330T58	Electrolytic	33 µF 16V
C151,152	YF400101CHJT	Ceramic	100 pF
C153,154	YWR2063T470	Electrolytic	47 µF 63V
C155	ECA1JM100	Electrolytic	10 µF 63V
C156,157	YF400101CHJT	Ceramic	100 pF
C158	YWRA26T471	Electrolytic	470 µF 6V
C160,161	YF400221CHJT	Ceramic	220 pF
C163	YWRA26T471	Electrolytic	470 µF 6V
C164	YF400221CHJT	Ceramic	220 pF
C165,166	ECHU1H104JB9	Plastic	0.1 µF 50V
C167,168	R2O25T101	Electrolytic	100 µF 25V
C170,171	RA216V330T58	Electrolytic	33 µF 16V
C201,202	YF400101CHJT	Ceramic	100 pF
C203,204	YWR2063T470	Electrolytic	47 µF 63V
C205	ECA1JM100	Electrolytic	10 µF 63V
C206,207	YF400101CHJT	Ceramic	100 pF
C208	YWRA26T471	Electrolytic	470 µF 6V
C210,211	YF400221CHJT	Ceramic	220 pF
C213	YWRA26T471	Electrolytic	470 µF 6V
C214	YF400221CHJT	Ceramic	220 pF
C215,216	ECHU1H104JB9	Plastic	0.1 µF 50V
C217,218	YWR2025T101	Electrolytic	100 µF 25V
C220,221	RA216V330T58	Electrolytic	33 µF 16V
C251,252	YF400101CHJT	Ceramic	100 pF
C253,254	YWR2063T470	Electrolytic	47 µF 63V
C255	ECA1JM100	Electrolytic	10 µF 6V
C256,257	YF400101CHJT	Ceramic	100 pF
C258	YWRA26T471	Electrolytic	470 µF 6V
C260,261	YF400221CHJT	Ceramic	220 pF
C263	YWRA26T471	Electrolytic	470 µF 6V
C264	YF400221CHJT	Ceramic	220 pF
C265,266	ECHU1H104JB9	Plastic	0.1 µF 50V
C267,268	YWR2025T101	Electrolytic	100 µF 25V
C270,271	RA216V330T58	Electrolytic	33 µF 16V
C301,302	YF400101CHJT	Ceramic	100 pF
C303,304	YWR2063T470	Electrolytic	47 µF 63V
C305	ECA1JM100	Electrolytic	10 µF 63V
C306,307	YF400101CHJT	Ceramic	100 pF
C308	YWRA26T471	Electrolytic	470 µF 6V
C310,311	YF400221CHJT	Ceramic	220 pF
C313	YWRA26T471	Electrolytic	470 µF 6V
C314	YF400221CHJT	Ceramic	220 pF
C315,316	ECHU1H104JB9	Plastic	0.1 µF 50V
C317,318	YWR2025T101	Electrolytic	100 µF 25V

REF. NO.	PART NO.	DESCRIPTION	
C320,321	RA216V330T58	Electrolytic	33 µF 16V
C351,352	YF400101CHJT	Ceramic	100 pF
C353,354	YWR2063T470	Electrolytic	47 µF 63V
C355	ECA1JM100	Electrolytic	10 µF 6.3V
C356,357	YF400101CHJT	Ceramic	100 pF
C358	YWRA26T471	Electrolytic	470 µF 6V
C360,361	YF400221CHJT	Ceramic	220 pF
C363	YWRA26T471	Electrolytic	470 µF 6V
C364	YF400221CHJT	Ceramic	220 pF
C365,366	ECHU1H104JB9	Plastic	0.1 µF 50V
C367,368	YWR2025T101	Electrolytic	100 µF 25V
C370,371	RA216V330T58	Electrolytic	33 µF 16V
C401-404	YF400101CHJT	Ceramic	100 pF
C405	YWRA26T471	Electrolytic	470 µF 6V
C407,408	YF400221CHJT	Ceramic	220 pF
C410	YWRA26T471	Electrolytic	470 µF 6V
C411	YF400221CHJT	Ceramic	220 pF
C412,413	ECHU1H104JB9	Plastic	0.1 µF 50V
C414,415	YWR2025T101	Electrolytic	100 µF 25V
C420,421	RA216V330T58	Electrolytic	33 µF 16V
C451-454	YF400101CHJT	Ceramic	100 pF
C455	YWRA26T471	Electrolytic	470 µF 6V
C457,458	YF400221CHJT	Ceramic	220 pF
C460	YWRA26T471	Electrolytic	470 µF 6V
C461	YF400221CHJT	Ceramic	220 pF
C462,463	ECHU1H104JB9	Plastic	0.1 µF 50V
C464,465	YWR2025T101	Electrolytic	100 µF 25V
C470,471	RA216V330T58	Electrolytic	33 µF 16V
C501-504	YF400101CHJT	Ceramic	100 pF
C505	YWRA26T471	Electrolytic	470 µF 6V
C507,508	YF400221CHJT	Ceramic	220 pF
C510	YWRA26T471	Electrolytic	470 µF 6V
C511	YF400221CHJT	Ceramic	220 pF
C512,513	ECHU1H104JB9	Plastic	0.1 µF 50V
C514,515	YWR2025T101	Electrolytic	100 µF 25V
C520,521	RA216V330T58	Electrolytic	33 µF 16V
C551-554	YF400101CHJT	Ceramic	100 pF
C555	YWRA26T471	Electrolytic	470 µF 6V
C557,558	YF400221CHJT	Ceramic	220 pF
C560	YWRA26T471	Electrolytic	470 µF 6V
C561	YF400221CHJT	Ceramic	220 pF
C562,563	ECHU1H104JB9	Plastic	0.1 µF 50V
C564,565	YWR2025T101	Electrolytic	100 µF 25V
C570,571	RA216V330T58	Electrolytic	33 µF 16V
C601-604	YF400101CHJT	Ceramic	100 pF
C605	YWRA26T471	Electrolytic	470 µF 6V
C607,608	YF400221CHJT	Ceramic	220 pF
C610	YWRA26T471	Electrolytic	470 µF 6V
C611	YF400221CHJT	Ceramic	220 pF
C612,613	ECHU1H104JB9	Plastic	0.1 µF 50V

REF. NO.	PART NO.	DESCRIPTION	
C614,615	YWR2025T101	Electrolytic	100 µF 25V
C620,621	RA216V330T58	Electrolytic	33 µF 16V
C651-654	YF400101CHJT	Ceramic	100 pF
C655	YWRA26T471	Electrolytic	470 µF 6V
C657,658	YF400221CHJT	Ceramic	220 pF
C660	YWRA26T471	Electrolytic	470 µF 6V
C661	YF400221CHJT	Ceramic	220 pF
C662,663	ECHU1H104JB9	Plastic	0.1 µF 50V
C664,665	YWR2025T101	Electrolytic	100 µF 25V
C670,671	RA216V330T58	Electrolytic	33 µF 16V
C701-704	YF400101CHJT	Ceramic	100 pF
C705	YWRA26T471	Electrolytic	470 µF 6V
C707,708	YF400221CHJT	Ceramic	220 pF
C710	YWRA26T471	Electrolytic	470 µF 6V
C711	YF400221CHJT	Ceramic	220 pF
C712,713	ECHU1H104JB9	Plastic	0.1 µF 50V
C714,715	YWR2025T101	Electrolytic	100 µF 25V
C720,721	RA216V330T58	Electrolytic	33 µF 16V
C751-754	YF400101CHJT	Ceramic	100 pF
C755	YWRA26T471	Electrolytic	470 µF 6V
C757,758	YF400221CHJT	Ceramic	220 pF
C760	YWRA26T471	Electrolytic	470 µF 6V
C761	YF400221CHJT	Ceramic	220 pF
C762,763	ECHU1H104JB9	Plastic	0.1 µF 50V
C764,765	YWR2025T101	Electrolytic	100 µF 25V
C770,771	RA216V330T58	Electrolytic	33 µF 16V
C951-957	YF400104FZT	Ceramic	0.1 µF
C976,977	ECA1EM471	Electrolytic	470 µF 25V
C978	YF400104FZT	Ceramic	0.1 µF
C979-982	ECA1EM471	Electrolytic	470 µF 25V
C983-990	ECA1JM100	Electrolytic	0.1 µF 63V
L1,2	YWBLM21A05PT	Coil	
L51,52	YWBLM21A05PT	Coil	
L101,102	YWBLM21A05PT	Coil	
L151,152	YWBLM21A05PT	Coil	
L201,202	YWBLM21A05PT	Coil	
L251,252	YWBLM21A05PT	Coil	
L301,302	YWBLM21A05PT	Coil	
L351,352	YWBLM21A05PT	Coil	
L401,402	YWBLM21A05PT	Coil	
L451,452	YWBLM21A05PT	Coil	
L501,502	YWBLM21A05PT	Coil	
L551,552	YWBLM21A05PT	Coil	
L601,602	YWBLM21A05PT	Coil	
L651,652	YWBLM21A05PT	Coil	
L701,702	YWBLM21A05PT	Coil	
L751,752	YWBLM21A05PT	Coil	
CN1,51	YWNC3FAH10	Connector	
CN56-63	YW510480400	Connector	
CN101,151	YWNC3FAH10	Connector	

REF. NO.	PART NO.	DESCRIPTION
CN201,251	YWNC3FAH10	Connector
CN301,351	YWNC3FAH10	Connector
JK401,451	YWYKB215261	Jack
JK501,551	YWYKB215261	Jack
JK601,651	YWYKB215261	Jack
JK701,751	YWYKB215261	Jack
M40	YWA3BA1041A3	Supporting Angle
INS BOARD		
PCB3 (RTL)	YWR00DA7KC5A	Printed Circuit Board Assy
R901-916	YWR1220P100D	Metal
C901-932	YF400101CHJT	Ceramic 100 pF
L901-932	YWBLM21A05PT	Coil
CN54,55	YW510481500	Connector
CN56-63	YW510480400	Connector
JK901-916	YWYKB215262	Jack
E54	YWRDA7L54	Wire Assy for AD/DA Board CN54
E55	YWRDA7L55	Wire Assy for AD/DA Board CN55
M40	YWA3BA1041A3	Supporting Angle
AD/DA BOARD		
PCB4 (RTL)	YWR0DA7GKZ4A	Printed Circuit Board Assy
IC1	YWUPC4570G	IC
IC2	NJM2068MD	IC
IC3	YWCS5394KS	IC
IC41	YWUPC4570G	IC
IC42	NJM2068MD	IC
IC43	YWCS5394KS	IC
IC81	YWUPC4570G	IC
IC82	NJM2068MD	IC
IC83	YWCS5394KS	IC
IC121	YWUPC4570G	IC
IC122	NJM2068MD	IC
IC123	YWCS5394KS	IC
IC161	YWUPC4570G	IC
IC162	NJM2068MD	IC
IC163	YWCS5394KS	IC
IC201	YWUPC4570G	IC
IC202	NJM2068MD	IC
IC203	YWCS5394KS	IC
IC241	YWUPC4570G	IC

REF. NO.	PART NO.	DESCRIPTION
IC242	NJM2068MD	IC
IC243	YWCS5394KS	IC
IC281	YWUPC4570G	IC
IC282	NJM2068MD	IC
IC283	YWCS5394KS	IC
IC401	YWM51957BFP	IC
IC412	MC74HC125AF	IC
IC413	YWTC7S04F	IC
IC415	HD74HC123AF	IC
IC451	YWM51957BFP	IC
IC501	YWMN64734	IC
IC502	YWTC7S04F	IC
IC503	YWNJM5532M	IC
IC504	NJM2068MD	IC
IC505	YWNJM5532M	IC
IC506	NJM2068MD	IC
IC507-510	YWUPC4570G	IC
IC651	YWMN64734	IC
IC652	YWTC7S32FL	IC
IC653	YWNJM5532M	IC
IC654	NJM2068MD	IC
IC655	YWUPC4570G	IC
IC657	YWNJM5532M	IC
IC658	NJM2068MD	IC
IC660,662	YWNJU201AM	IC
IC663	YWAK4324VF	IC
IC664,665	NJM2068MD	IC
IC666	YWTC7S32FL	IC
IC667-670	YWUPC4570G	IC
IC671	YWNJU201AM	IC
IC672	NJM2068MD	IC
IC673	YWMCHC04AE	IC
IC900	HD74HC123AF	IC
IC901	YWTC7S04F	IC
IC902,903	YWNJM2122M	IC
IC904	YWAK4520AVF	IC
IC906,907	YWNJM2122M	IC
IC908	YWAK4520AVF	IC
IC909,910	YWUPC4570G	IC
IC911	YWSN75179BPS	IC
IC912-919	YWTC7S04F	IC
IC1000	YWMCHC74AE	IC
IC1001	YWTC7S00FL	IC
IC1002	YWTC7S04F	IC
Q407	DTC114EU	Transistor
Q408	DTA114EU	Transistor
Q409	DTC114EU	Transistor
Q410	DTA114EKAT46	Transistor
Q411	DTC114EKAT46	Transistor
Q414,415	FMA4AT148	Transistor

REF. NO.	PART NO.	DESCRIPTION	
Q416	DTC114EU	Transistor	
Q501,502	2SD1766T00PQ	Transistor	
Q503,504	2SC4695TB	Transistor	
Q651,652	2SD1766T00PQ	Transistor	
Q654,655	DTC114EU	Transistor	
Q657-660	DTC114EU	Transistor	
Q700,701	2SC4695TB	Transistor	
Q901-904	2SC4695TB	Transistor	
D501,502	YWUDZ5.6B	Diode	
D503-510	MA111	Diode	
D660,661	YWUDZ5.6B	Diode	
R1	YWR1220P473D	Metal	47K ohms
R2	YWR1220P512D	Metal	5.1K ohms
R3	YWR1220P512D	Metal	5.1K ohms
R4	YWR1220P752D	Metal	7.5K ohms
R5	YWR1220P752D	Metal	7.5K ohms
R6	R1220P681D	Metal	680 ohms
R7	YFR1220P104D	Metal	100K ohms
R8	R1220P681D	Metal	680 ohms
R9	YWR1220P752D	Metal	7.5K ohms
R10	YWR1220P752D	Metal	7.5K ohms
R11	YWR1220P181D	Metal	180 ohms
R12	YWR1220P473D	Metal	47K ohms
R13	YWR1220P512D	Metal	5.1K ohms
R14	YWR1220P512D	Metal	5.1K ohms
R15	YWR1220P752D	Metal	7.5K ohms
R16	YWR1220P752D	Metal	7.5K ohms
R17	R1220P681D	Metal	680 ohms
R18	YFR1220P104D	Metal	100K ohms
R19	R1220P681D	Metal	680 ohms
R20	YWR1220P473D	Metal	47K ohms
R21	YWR1220P473D	Metal	47K ohms
R22	YWR1220P752D	Metal	7.5K ohms
R23	YWR1220P752D	Metal	7.5K ohms
R25	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R26	YWR1220P473D	Metal	47K ohms
R27	YWR1220P181D	Metal	180 ohms
R41	YWR1220P473D	Metal	47K ohms
R42	YWR1220P512D	Metal	5.1K ohms
R43	YWR1220P512D	Metal	5.1K ohms
R44	YWR1220P752D	Metal	7.5K ohms
R45	YWR1220P752D	Metal	7.5K ohms
R46	R1220P681D	Metal	680 ohms
R47	YFR1220P104D	Metal	100K ohms
R48	R1220P681D	Metal	680 ohms
R49	YWR1220P752D	Metal	7.5K ohms
R50	YWR1220P752D	Metal	7.5K ohms
R51	YWR1220P181D	Metal	180 ohms
R52	YWR1220P473D	Metal	47K ohms
R53,54	YWR1220P512D	Metal	5.1K ohms

REF. NO.	PART NO.	DESCRIPTION	
R55,56	YWR1220P752D	Metal	7.5K ohms
R57	R1220P681D	Metal	680 ohms
R58	YFR1220P104D	Metal	100K ohms
R59	R1220P681D	Metal	680 ohms
R60,61	YWR1220P473D	Metal	47K ohms
R62,63	YWR1220P752D	Metal	7.5K ohms
R65	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R66	YWR1220P473D	Metal	47K ohms
R67	YWR1220P181D	Metal	180 ohms
R81	YWR1220P473D	Metal	47K ohms
R82,83	YWR1220P512D	Metal	5.1K ohms
R84,85	YWR1220P752D	Metal	7.5K ohms
R86	R1220P681D	Metal	680 ohms
R87	YFR1220P104D	Metal	100K ohms
R88	R1220P681D	Metal	680 ohms
R89,90	YWR1220P752D	Metal	7.5K ohms
R91	YWR1220P181D	Metal	180 ohms
R92	YWR1220P473D	Metal	47K ohms
R93,94	YWR1220P512D	Metal	5.1K ohms
R95,96	YWR1220P752D	Metal	7.5K ohms
R97	R1220P681D	Metal	680 ohms
R98	YFR1220P104D	Metal	100K ohms
R99	R1220P681D	Metal	680 ohms
R100,101	YWR1220P473D	Metal	47K ohms
R102,103	YWR1220P752D	Metal	7.5K ohms
R105	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R106	YWR1220P473D	Metal	47K ohms
R107	YWR1220P181D	Metal	180 ohms
R121	YWR1220P473D	Metal	47K ohms
R122,123	YWR1220P512D	Metal	5.1K ohms
R124,125	YWR1220P752D	Metal	7.5K ohms
R126	R1220P681D	Metal	680 ohms
R127	YFR1220P104D	Metal	100K ohms
R128	R1220P681D	Metal	680 ohms
R129,130	YWR1220P752D	Metal	7.5K ohms
R131	YWR1220P181D	Metal	180 ohms
R132	YWR1220P473D	Metal	47K ohms
R133,134	YWR1220P512D	Metal	5.1K ohms
R135,136	YWR1220P752D	Metal	7.5K ohms
R137	R1220P681D	Metal	680 ohms
R138	YFR1220P104D	Metal	100K ohms
R139	R1220P681D	Metal	680 ohms
R140,141	YWR1220P473D	Metal	47K ohms
R142,143	YWR1220P752D	Metal	7.5K ohms
R145	ERJ6GEYJ4R7V	Carbon	4.7 ohms 1/10W
R146	YWR1220P473D	Metal	47K ohms
R147	YWR1220P181D	Metal	180 ohms 1/10W
R161	YWR1220P473D	Metal	47K ohms
R162,163	YWR1220P512D	Metal	5.1K ohms
R164,165	YWR1220P752D	Metal	7.5K ohms

REF. NO.	PART NO.	DESCRIPTION	
R166	R1220P681D	Metal	680 ohms
R167	YFR1220P104D	Metal	100K ohms
R168	R1220P681D	Metal	680 ohms
R169,170	YWR1220P752D	Metal	7.5K ohms
R171	YWR1220P181D	Metal	180 ohms 1/10W
R172	YWR1220P473D	Metal	47K ohms
R173,174	YWR1220P512D	Metal	5.1K ohms
R175,176	YWR1220P752D	Metal	7.5K ohms
R177	R1220P681D	Metal	680 ohms
R178	YFR1220P104D	Metal	100K ohms
R179	R1220P681D	Metal	680 ohms
R180,181	YWR1220P473D	Metal	47K ohms
R182,183	YWR1220P752D	Metal	7.5K ohms
R185	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R186	YWR1220P473D	Metal	47K ohms
R187	YWR1220P181D	Metal	180 ohms 1/10W
R201	YWR1220P473D	Metal	47K ohms
R202,203	YWR1220P512D	Metal	5.1K ohms
R204,205	YWR1220P752D	Metal	7.5K ohms
R206	R1220P681D	Metal	680 ohms
R207	YFR1220P104D	Metal	100K ohms
R208	R1220P681D	Metal	680 ohms
R209,210	YWR1220P752D	Metal	7.5K ohms
R211	YWR1220P181D	Metal	180 ohms
R212	YWR1220P473D	Metal	47K ohms
R213,214	YWR1220P512D	Metal	5.1K ohms
R215,216	YWR1220P752D	Metal	7.5K ohms
R217	R1220P681D	Metal	680 ohms
R218	YFR1220P104D	Metal	100K ohms
R219	R1220P681D	Metal	680 ohms
R220,221	YWR1220P473D	Metal	47K ohms
R222,223	YWR1220P752D	Metal	7.5K ohms
R225	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R226	YWR1220P473D	Metal	47K ohms
R227,228	YWR1220P181D	Metal	180 ohms
R241	YWR1220P473D	Metal	47K ohms
R242,243	YWR1220P512D	Metal	5.1K ohms
R244,245	YWR1220P752D	Metal	7.5K ohms
R246	R1220P681D	Metal	680 ohms
R247	YFR1220P104D	Metal	100K ohms
R248	R1220P681D	Metal	680 ohms
R249,250	YWR1220P752D	Metal	7.5K ohms
R251	YWR1220P181D	Metal	180 ohms
R252	YWR1220P473D	Metal	47K ohms
R253,254	YWR1220P512D	Metal	5.1K ohms
R255,256	YWR1220P752D	Metal	7.5K ohms
R257	R1220P681D	Metal	680 ohms
R258	YFR1220P104D	Metal	100K ohms
R259	R1220P681D	Metal	680 ohms
R260,261	YWR1220P473D	Metal	47K ohms

REF. NO.	PART NO.	DESCRIPTION	
R262,263	YWR1220P752D	Metal	7.5K ohms
R265	ERJ6GEYJ4R7	Carbon	4.7 ohms 1/10W
R266,281	YWR1220P473D	Metal	47K ohms
R282,283	YWR1220P512D	Metal	5.1K ohms
R284,285	YWR1220P752D	Metal	7.5K ohms
R286	R1220P681D	Metal	680 ohms
R287	YFR1220P104D	Metal	100K ohms
R288	R1220P681D	Metal	680 ohms
R289,290	YWR1220P752D	Metal	7.5K ohms
R291	YWR1220P181D	Metal	180 ohms
R292	YWR1220P473D	Metal	47K ohms
R293,294	YWR1220P512D	Metal	5.1K ohms
R295,296	YWR1220P752D	Metal	7.5K ohms
R297	R1220P681D	Metal	680 ohms
R298	YFR1220P104D	Metal	100K ohms
R299	R1220P681D	Metal	680 ohms
R300,301	YWR1220P473D	Metal	47K ohms
R302,303	YWR1220P752D	Metal	7.5K ohms
R305	ERJ6GEYJ4R7V	Carbon	4.7 ohms 1/10W
R306	YWR1220P473D	Metal	47K ohms
R307	YWR1220P181D	Metal	180 ohms
R311	R1220P1912D	Metal	19.1K ohms
R314	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R315-318	YWR1220P103D	Metal	10K ohms
R319	YFR1220P203D	Metal	20K ohms
R320	R1220P2102D	Metal	21K ohms
R321	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R322	R1220P2102D	Metal	21K ohms
R323	YWR1220P103D	Metal	10K ohms
R324	R1220P5900D	Metal	5.9K ohms
R325	YWR1220P751D	Metal	750 ohms
R327	YWR1220P152D	Metal	1.5K ohms
R329	R1220P2102D	Metal	21K ohms
R331	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R336,337	YWR1220P122D	Metal	1.2K ohms
R339	YWR1220P100D	Metal	10 ohms
R340	YWR1220P680D	Metal	68 ohms
R341	YWR1220P100D	Metal	10 ohms
R342	YWR1220P680D	Metal	68 ohms
R343	YWR1220Q100D	Metal	10 ohms
R345	YWR1220P680D	Metal	68 ohms
R346	YWR1220Q100D	Metal	10 ohms
R347	YWR1220P680D	Metal	68 ohms
R401	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R403	YWR1220P912D	Metal	9.2K ohms
R404	YWR1220P332D	Metal	3.3K ohms
R407	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R434	ERJ6GEYJ123	Carbon	12K ohms 1/10W
R436,437	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R441	ERJ6GEYJ103	Carbon	10K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R443-446	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R450	ERJ12YJ332H	Carbon	3.3K ohms
R452	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R456	YWR1220P153D	Metal	15K ohms
R457	YWR1220P332D	Metal	3.3K ohms
R458	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R502-535	YWR0816P103B	Metal	10K ohms
R537,539	YWR1220P681D	Metal	680 ohms
R540-573	YWR0816P103B	Metal	10K ohms
R580,581	R1220P432D	Metal	4.3K ohms
R582,583	YWR1220P562D	Metal	5.6K ohms
R584,585	YWR1220P272D	Metal	2.7K ohms
R588	YFR1220P222D	Metal	2.2K ohms
R589	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R591	YWR1220P112D	Metal	1.1K ohms
R592	YWR1220P751D	Metal	750 ohms
R593	R1220P5900D	Metal	5.9K ohms
R596,597	R1220P432D	Metal	4.3K ohms
R598,599	YWR1220P562D	Metal	5.6K ohms
R600,601	YWR1220P272D	Metal	2.7K ohms
R604	YFR1220P222D	Metal	2.2K ohms
R605	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R607	YWR1220P112D	Metal	1.1K ohms
R608	R1220P1912D	Metal	19.1K ohms
R609,610	YWR1220P103D	Metal	10K ohms
R611	YFR1220P203D	Metal	20K ohms
R612,613	YWR1220P103D	Metal	10K ohms
R616	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R617	R1220P2102D	Metal	21K ohms
R618	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R619	R1220P2102D	Metal	21K ohms
R620,621	YWR1220P103D	Metal	10K ohms
R622	R1220P1912D	Metal	19.1K ohms
R623-626	YWR1220P103D	Metal	10K ohms
R627	YFR1220P203D	Metal	20K ohms
R629	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R630	R1220P2102D	Metal	21K ohms
R631	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R632	R1220P2102D	Metal	21K ohms
R633-635	YWR1220P103D	Metal	10K ohms
R636	R1220P1912D	Metal	19.1K ohms
R640	YWR1220P152D	Metal	1.5K ohms
R641-643	YWR1220P103D	Metal	10K ohms
R644	YFR1220P203D	Metal	20K ohms
R645	YWR1220P103D	Metal	10K ohms
R647	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R648	R1220P2102D	Metal	21K ohms
R649,650	YWR1220P103D	Metal	10K ohms
R652-685	YWR0816P103B	Metal	10K ohms
R687,689	YWR1220P681D	Metal	680 ohms

REF. NO.	PART NO.	DESCRIPTION	
R690-723	YWR0816P103B	Metal	10K ohms
R724	R1220P5900D	Metal	5.9K ohms
R726	YWR1220P751D	Metal	750 ohms
R730,731	R1220P432D	Metal	4.3K ohms
R732,733	YWR1220P562D	Metal	5.6K ohms
R734,735	YWR1220P272D	Metal	2.7K ohms
R738	YWR1220P122D	Metal	1.2K ohms
R739	YWR1220P152D	Metal	1.5K ohms
R740	YWR1220P112D	Metal	1.1K ohms
R741-743	YWR1220P472D	Metal	4.7K ohms
R749	YWR1220P751D	Metal	750 ohms
R750	R1220P5900D	Metal	5.9K ohms
R752,754	R1220P432D	Metal	4.3K ohms
R755,756	YWR1220P562D	Metal	5.6K ohms
R757,758	YWR1220P272D	Metal	2.7K ohms
R761	YWR1220P122D	Metal	1.2K ohms
R762	YWR1220P152D	Metal	1.5K ohms
R763	YWR1220P112D	Metal	1.1K ohms
R764-766	YWR1220P472D	Metal	4.7K ohms
R772	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R773	YWR1220P473D	Metal	47K ohms
R774,776	R1220P123D	Metal	12K ohms 1/4W
R778,779	YWR1220P223D	Metal	22K ohms
R780,781	YWR1220P473D	Metal	47K ohms
R783,785	R1220P123D	Metal	12K ohms 1/4W
R787,788	YWR1220P223D	Metal	22K ohms
R790	R1220P1912D	Metal	19.1K ohms
R791,792	YWR1220P103D	Metal	10K ohms
R793	YFR1220P203D	Metal	20K ohms
R794,795	YWR1220P103D	Metal	10K ohms
R796,797	YWR1220P473D	Metal	47K ohms
R798	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R799	R1220P2102D	Metal	21K ohms
R800	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R801	R1220P2102D	Metal	21K ohms
R802,803	YWR1220P103D	Metal	10K ohms
R804	R1220P1912D	Metal	19.1K ohms
R805,806	YWR1220P103D	Metal	10K ohms
R807	YFR1220P203D	Metal	20K ohms
R808,809	YWR1220P103D	Metal	10K ohms
R812	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R813	R1220P2102D	Metal	21K ohms
R814	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R815	R1220P2102D	Metal	21K ohms
R816,817	YWR1220P103D	Metal	10K ohms
R818	R1220P1912D	Metal	19.1K ohms
R819,820	YWR1220P103D	Metal	10K ohms
R821	YFR1220P203D	Metal	20K ohms
R822,823	YWR1220P103D	Metal	10K ohms
R824,825	YWR1220P473D	Metal	47K ohms

REF. NO.	PART NO.	DESCRIPTION	
R826	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R827	R1220P2102D	Metal	21K ohms
R828	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R829	R1220P2102D	Metal	21K ohms
R830,831	YWR1220P103D	Metal	10K ohms
R832	R1220P1912D	Metal	19.1K ohms
R833,834	YWR1220P103D	Metal	10K ohms
R835	YFR1220P203D	Metal	20K ohms
R836,837	YWR1220P103D	Metal	10K ohms
R838,839	YWR1220P473D	Metal	47K ohms
R840	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R841	R1220P2102D	Metal	21K ohms
R842	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R843	R1220P2102D	Metal	21K ohms
R844,845	YWR1220P103D	Metal	10K ohms
R855,856	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R857,858	YWR1220P221D	Metal	220 ohms
R859,860	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R861	YWR1220P221D	Metal	220 ohms
R862,863	YWR1220P103D	Metal	10K ohms
R864,865	YWR1220P512D	Metal	5.1K ohms
R866-868	YWR1220P473D	Metal	47K ohms
R869,870	YWR1220P103D	Metal	10K ohms
R871,872	YWR1220P512D	Metal	5.1K ohms
R873	YWR1220P473D	Metal	47K ohms
R874,875	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R876,877	YWR1220P221D	Metal	220 ohms
R878-883	YWR1220P472D	Metal	4.7K ohms
R884	YWR1220P221D	Metal	220 ohms
R886	YFR1220P222D	Metal	2.2K ohms
R887	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R888	YFR1220P222D	Metal	2.2K ohms
R889	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R890	YWR1220P680D	Metal	68 ohms
R891,892	YWR1220Q100D	Metal	10 ohms
R893	YWR1220P680D	Metal	68 ohms
R894	YWR1220Q100D	Metal	10 ohms
R895	YWR1220P680D	Metal	68 ohms
R896	YWR1220Q100D	Metal	10 ohms
R897	YWR1220P680D	Metal	68 ohms
R899	ERJ6GEYJ151	Carbon	150 ohms 1/10W
R901	YWR1220P103D	Metal	10K ohms
R903	YWR1220P562D	Metal	5.6K ohms
R906	R1220P3242D	Metal	32.4Kohms
R907	YWR1220P562D	Metal	5.6K ohms
R909	YWR1220P272D	Metal	2.7K ohms
R910	R1220P331D	Metal	330K ohms
R911,912	YWR1220P562D	Metal	5.6K ohms
R913	R1220P331D	Metal	330K ohms
R914,916	YWR1220P473D	Metal	47K ohms

REF. NO.	PART NO.	DESCRIPTION	
R917	YWR1220P103D	Metal	10K ohms
R918	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R920	R1220P3242D	Metal	32.4Kohms
R921	YWR1220P272D	Metal	2.7K ohms
R922	R1220P331D	Metal	330K ohms
R923,924	YWR1220P562D	Metal	5.6K ohms
R925	R1220P331D	Metal	330K ohms
R926	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R927	YFR1220P222D	Metal	2.2K ohms
R929	YFR1220P113D	Metal	11K ohms
R930	YWR1220P102D	Metal	1K ohms
R931	YWR1220P622D	Metal	6.2K ohms
R932,933	YWR1220P473D	Metal	47K ohms
R934	YWR1220Q750D	Metal	75 ohms
R935	YWR1220P473D	Metal	47K ohms
R936	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R937	YFR1220P222D	Metal	2.2K ohms
R939	YFR1220P113D	Metal	11K ohms
R940	YWR1220P102D	Metal	1K ohms
R941	YWR1220P622D	Metal	6.2K ohms
R942	YWR1220Q750D	Metal	75 ohms
R943	YWR1220P473D	Metal	47K ohms
R944	YWR1220P103D	Metal	10K ohms
R949	R1220P3242D	Metal	32.4Kohms
R952	YWR1220P272D	Metal	2.7K ohms
R953,954	YWR1220P562D	Metal	5.6K ohms
R955,956	R1220P331D	Metal	330K ohms
R957,959	YWR1220P473D	Metal	47K ohms
R960	YWR1220P103D	Metal	10K ohms
R963	R1220P3242D	Metal	32.4Kohms
R964	YWR1220P272D	Metal	2.7K ohms
R965	R1220P331D	Metal	330K ohms
R966,967	YWR1220P562D	Metal	5.6K ohms
R968	R1220P331D	Metal	330K ohms
R969	YFR1220P222D	Metal	2.2K ohms
R970	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R972	YFR1220P113D	Metal	11K ohms
R973	YWR1220P102D	Metal	1K ohms
R974	YWR1220P622D	Metal	6.2K ohms
R975,976	YWR1220P473D	Metal	47K ohms
R977	YWR1220Q750D	Metal	75 ohms
R978	YWR1220P473D	Metal	47K ohms
R979	YFR1220P222D	Metal	2.2K ohms
R980	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R982	YFR1220P113D	Metal	11K ohms
R983	YWR1220P102D	Metal	1K ohms
R984	YWR1220P622D	Metal	6.2K ohms
R985	YWR1220Q750D	Metal	75 ohms
R986	YWR1220P473D	Metal	47K ohms
R989,990	ERJ8GCSG560	Carbon	56 ohms 1/8W

REF. NO.	PART NO.	DESCRIPTION	
R991	ERJ8GEYJ750	Carbon	75 ohms 1/8W
R992	ERJ8GCSG560	Carbon	56 ohms 1/8W
R993	ERJ8GEYJ330	Carbon	33 ohms 1/8W
R995	R1220P820D	Metal	82ohms
R999	YWR1220P473D	Metal	47K ohms
R1001	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R1002,1003	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1004,1005	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1006,1007	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1008,1009	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1010,1011	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1012,1013	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1014,1015	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1016,1017	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1018,1019	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1020,1021	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1022,1023	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1024,1025	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1026,1027	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1028,1029	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1030,1031	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R1032,1033	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1038,1039	YWR1220P102D	Metal	1K ohms
R1040	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R1041	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R1042	YWR1220P102D	Metal	1K ohms
R1043	YWR1220P102D	Metal	1K ohms
R1044	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R1045	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R1046-1049	YWR1220P103D	Metal	10K ohms
R1050	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R1051,1052	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R1110	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R1500	YWERG2SJ181P	Metal	180 ohms 2W
R1503	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R1504	ERJ6GEYJ100	Carbon	100 ohms 1/10W
R1506-1511	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R1512-1514	ERJ6GEYJ103	Carbon	10K ohms 1/10W
Z401-406	EXBV8V103J	Block Resistor	10K ohms
C1	YF400101CHJT	Ceramic	100 pF
C2	YWRVS0J101M	Electrolytic	100 µF 6.3V
C3	YWRVS0J101M	Electrolytic	100 µF 6.3V
C6	YF400101CHJT	Ceramic	100 pF
C7	YF400104FZT	Ceramic	0.1 µF
C8	YF400472XKT	Ceramic	4700 pF
C9	YWRVS0J101M	Electrolytic	100 µF 6.3V
C10	YF400101CHJT	Ceramic	100 pF
C11	YWRVS0J101M	Electrolytic	100 µF 6.3V
C14	YF400101CHJT	Ceramic	100 pF
C15-18	ECHU1C104JB	Plastic	0.1 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C19,20	YWRVW1E101	Electrolytic	100 µF 25V
C21	YF400104FZT	Ceramic	0.1 µF
C22	YWRVW1C101	Electrolytic	100 µF 16V
C23	ECHU1C104JB	Plastic	0.1 µF 16V
C25	ECHU1C104JB	Plastic	0.1 µF 16V
C27	YF400103XKT	Ceramic	0.01 µF
C28	YF400104FZT	Ceramic	0.1 µF
C29	ECHU1C104JB	Plastic	0.1 µF 16V
C30	YWRVW1C101	Electrolytic	100 µF 16V
C31	YF400104FZT	Ceramic	0.1 µF
C32	YWRVW1C470	Electrolytic	47 µF 16V
C33	YF400103XKT	Ceramic	0.01 µF
C34	YF400102XKT	Ceramic	1000 pF
C35	YF400103XKT	Ceramic	0.01 µF
C41	YWRVS0J101M	Electrolytic	100 µF 6.3V
C42	YF400101CHJT	Ceramic	100 pF
C43	YWRVS0J101M	Electrolytic	100 µF 6.3V
C46	YF400101CHJT	Ceramic	100 pF
C47	YF400104FZT	Ceramic	0.1 µF
C48	YF400472XKT	Ceramic	4700pF
C49	YWRVS0J101M	Electrolytic	100 µF 6.3V
C50	YF400101CHJT	Ceramic	100 pF
C51	YWRVS0J101M	Electrolytic	100 µF 6.3V
C54	YF400101CHJT	Ceramic	100 pF
C55-58	ECHU1C104JB	Plastic	0.1 µF 16V
C59,60	YWRVW1E101	Electrolytic	100 µF 25V
C61	YF400104FZT	Ceramic	0.1 µF
C62	YWRVW1C101	Electrolytic	100 µF 16V
C63,65	ECHU1C104JB	Plastic	0.1 µF 16V
C67	YF400103XKT	Ceramic	0.01 µF
C68	YF400104FZT	Ceramic	0.1 µF
C69	ECHU1C104JB	Plastic	0.1 µF 16V
C70	YWRVW1C101	Electrolytic	100 µF 16V
C71	YF400104FZT	Ceramic	0.1 µF
C72	YWRVW1C470	Electrolytic	47 µF 16V
C73	YF400103XKT	Ceramic	0.01 µF
C74	YF400102XKT	Ceramic	1000 pF
C75	YF400103XKT	Ceramic	0.01 µF
C81	YWRVS0J101M	Electrolytic	100 µF 6.3V
C82	YF400101CHJT	Ceramic	100 pF
C83	YWRVS0J101M	Electrolytic	100 µF 6.3V
C86	YF400101CHJT	Ceramic	100 pF
C87	YF400104FZT	Ceramic	0.1 µF
C88	YF400472XKT	Ceramic	4700pF
C89	YWRVS0J101M	Electrolytic	100 µF 6.3V
C90	YF400101CHJT	Ceramic	100 pF
C91	YWRVS0J101M	Electrolytic	100 µF 6.3V
C94	YF400101CHJT	Ceramic	100 pF
C95-98	ECHU1C104JB	Plastic	0.1 µF 16V
C99,100	YWRVW1E101	Electrolytic	100 µF 25V

REF. NO.	PART NO.	DESCRIPTION	
C101	YF400104FZT	Ceramic	0.1 µF
C102	YWRVW1C101	Electrolytic	100 µF 16V
C103,105	ECHU1C104JB	Plastic	0.1 µF 16V
C107	YF400103XKT	Ceramic	0.01 µF
C108	YF400104FZT	Ceramic	0.1 µF
C109	ECHU1C104JB	Plastic	0.1 µF 16V
C110	YWRVW1C101	Electrolytic	100 µF 16V
C111	YF400104FZT	Ceramic	0.1 µF
C112	YWRVW1C470	Electrolytic	47 µF 16V
C113	YF400103XKT	Ceramic	0.01 µF
C114	YF400102XKT	Ceramic	1000 pF
C115	YF400103XKT	Ceramic	0.01 µF
C121	YWRVS0J101M	Electrolytic	100 µF 6.3V
C122	YF400101CHJT	Ceramic	100 pF
C123	YWRVS0J101M	Electrolytic	100 µF 6.3V
C126	YF400101CHJT	Ceramic	100 pF
C127	YF400104FZT	Ceramic	0.1 µF
C128	YF400472XKT	Ceramic	4700 pF
C129	YWRVS0J101M	Electrolytic	100 µF 6.3V
C130	YF400101CHJT	Ceramic	100 pF
C131	YWRVS0J101M	Electrolytic	100 µF 6.3V
C134	YF400101CHJT	Ceramic	100 pF
C135-138	ECHU1C104JB	Plastic	0.1 µF 16V
C139,140	YWRVW1E101	Electrolytic	100 µF 25V
C141	YF400104FZT	Ceramic	0.1 µF
C142	YWRVW1C101	Electrolytic	100 µF 16V
C143,145	ECHU1C104JB	Plastic	0.1 µF 16V
C147	YF400103XKT	Ceramic	0.01 µF
C148	YF400104FZT	Ceramic	0.1 µF
C149	ECHU1C104JB	Plastic	0.1 µF 16V
C150	YWRVW1C101	Electrolytic	100 µF 16V
C151	YF400104FZT	Ceramic	0.1 µF
C152	YWRVW1C470	Electrolytic	47 µF 16V
C153	YF400103XKT	Ceramic	0.01 µF
C154	YF400102XKT	Ceramic	1000 pF
C155	YF400103XKT	Ceramic	0.01 µF
C161	YWRVS0J101M	Electrolytic	100 µF 6.3V
C162	YF400101CHJT	Ceramic	100 pF
C163	YWRVS0J101M	Electrolytic	100 µF 6.3V
C166	YF400101CHJT	Ceramic	100 pF
C167	YF400104FZT	Ceramic	0.1 µF
C168	YF400472XKT	Ceramic	4700 pF
C169	YWRVS0J101M	Electrolytic	100 µF 6.3V
C170	YF400101CHJT	Ceramic	100 pF
C171	YWRVS0J101M	Electrolytic	100 µF 6.3V
C174	YF400101CHJT	Ceramic	100 pF
C175-178	ECHU1C104JB	Plastic	0.1 µF 16V
C179,180	YWRVW1E101	Electrolytic	100 µF 25V
C181	YF400104FZT	Ceramic	0.1 µF
C182	YWRVW1C101	Electrolytic	100 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C183,185	ECHU1C104JB	Plastic	0.1 µF 16V
C187	YF400103XKT	Ceramic	0.01 µF
C188	YF400104FZT	Ceramic	0.1 µF
C189	ECHU1C104JB	Plastic	0.1 µF 16V
C190	YWRVW1C101	Electrolytic	100 µF 16V
C191	YF400104FZT	Ceramic	0.1 µF
C192	YWRVW1C470	Electrolytic	47 µF 16V
C193	YF400103XKT	Ceramic	0.01 µF
C194	YF400102XKT	Ceramic	1000 pF
C195	YF400103XKT	Ceramic	0.01 µF
C201	YWRVS0J101M	Electrolytic	100 µF 6.3V
C202	YF400101CHJT	Ceramic	100 pF
C203	YWRVS0J101M	Electrolytic	100 µF 6.3V
C206	YF400101CHJT	Ceramic	100 pF
C207	YF400104FZT	Ceramic	0.1 µF
C208	YF400472XKT	Ceramic	4700 pF
C209	YWRVS0J101M	Electrolytic	100 µF 6.3V
C210	YF400101CHJT	Ceramic	100 pF
C211	YWRVS0J101M	Electrolytic	100 µF 6.3V
C214	YF400101CHJT	Ceramic	100 pF
C215-218	ECHU1C104JB	Plastic	0.1 µF 16V
C219,220	YWRVW1E101	Electrolytic	100 µF 25V
C221	YF400104FZT	Ceramic	0.1 µF
C222	YWRVW1C101	Electrolytic	100 µF 16V
C223,225	ECHU1C104JB	Plastic	0.1 µF 16V
C227	YF400103XKT	Ceramic	0.01 µF
C228	YF400104FZT	Ceramic	0.1 µF
C229	ECHU1C104JB	Plastic	0.1 µF 16V
C230	YWRVW1C101	Electrolytic	100 µF 16V
C231	YF400104FZT	Ceramic	0.1 µF
C232	YWRVW1C470	Electrolytic	47 µF 16V
C233	YF400103XKT	Ceramic	0.01 µF
C234	YF400102XKT	Ceramic	1000 pF
C235	YF400103XKT	Ceramic	0.01 µF
C241	YWRVS0J101M	Electrolytic	100 µF 6.3V
C242	YF400101CHJT	Ceramic	100 pF
C243	YWRVS0J101M	Electrolytic	100 µF 6.3V
C246	YF400101CHJT	Ceramic	100 pF
C247	YF400104FZT	Ceramic	0.1 µF
C248	YF400472XKT	Ceramic	4700 pF
C249	YWRVS0J101M	Electrolytic	100 µF 6.3V
C250	YF400101CHJT	Ceramic	100 pF
C251	YWRVS0J101M	Electrolytic	100 µF 6.3V
C254	YF400101CHJT	Ceramic	100 pF
C255-258	ECHU1C104JB	Plastic	0.1 µF 16V
C259,260	YWRVW1E101	Electrolytic	100 µF 25V
C261	YF400104FZT	Ceramic	0.1 µF
C262	YWRVW1C101	Electrolytic	100 µF 16V
C263,265	ECHU1C104JB	Plastic	0.1 µF 16V
C267	YF400103XKT	Ceramic	0.01 µF

REF. NO.	PART NO.	DESCRIPTION	
C268	YF400104FZT	Ceramic	0.1 µF
C269	ECHU1C104JB	Plastic	0.1 µF 16V
C270	YWRVW1C101	Electrolytic	100 µF 16V
C271	YF400104FZT	Ceramic	0.1 µF
C272	YWRVW1C470	Electrolytic	47 µF 16V
C273	YF400103XKT	Ceramic	0.01 µF
C274	YF400102XKT	Ceramic	1000 pF
C275	YF400103XKT	Ceramic	0.01 µF
C281	YWRVS0J101M	Electrolytic	100 µF 6.3V
C282	YF400101CHJT	Ceramic	100 pF
C283	YWRVS0J101M	Electrolytic	100 µF 6.3V
C286	YF400101CHJT	Ceramic	100 pF
C287	YF400104FZT	Ceramic	0.1 µF
C288	YF400472XKT	Ceramic	4700pF
C289	YWRVS0J101M	Electrolytic	100 µF 6.3V
C290	YF400101CHJT	Ceramic	100 pF
C291	YWRVS0J101M	Electrolytic	100 µF 6.3V
C294	YF400101CHJT	Ceramic	100 pF
C295-298	ECHU1C104JB	Plastic	0.1 µF 16V
C299,300	YWRVW1E101	Electrolytic	100 µF 25V
C301	YF400104FZT	Ceramic	0.1 µF
C302	YWRVW1C101	Electrolytic	100 µF 16V
C303,305	ECHU1C104JB	Plastic	0.1 µF 16V
C307	YF400103XKT	Ceramic	0.01 µF
C308	YF400104FZT	Ceramic	0.1 µF
C309	ECHU1C104JB	Plastic	0.1 µF 16V
C310	YWRVW1C101	Electrolytic	100 µF 16V
C311,312	YF400104FZT	Ceramic	0.1 µF
C314	YF400104FZT	Ceramic	0.1 µF
C315-322	YF400472XKT	Ceramic	4700 pF
C401	ECST1CY225R	Electrolytic	2.2 µF 16V
C418	YF400104FZT	Ceramic	0.1 µF
C421,424	YF400103XKT	Ceramic	0.01 µF
C425-428	YF400104FZT	Ceramic	0.1 µF
C442	YF400102XKT	Ceramic	1000 pF
C444,446	YF400104FZT	Ceramic	0.1 µF
C448	YF400104FZT	Ceramic	0.1 µF
C449-451	YF400103XKT	Ceramic	0.01 µF
C452	YF400104FZT	Ceramic	0.1 µF
C453	YWRVW1C470	Electrolytic	47 µF 16V
C454	YF400103XKT	Ceramic	0.01 µF
C455	YF400102XKT	Ceramic	1000 pF
C456,457	YF400103XKT	Ceramic	0.01 µF
C501	YF400681CHJT	Ceramic	680 µF 50V
C502	ECHU1C153JB	Plastic	0.015 µF 16V
C503	YF400681CHJT	Ceramic	680 µF 50V
C504	YWRVW1C101	Electrolytic	100 µF 16V
C505	ECHU1C104JB	Plastic	0.1 µF 16V
C506	YWRVW1C101	Electrolytic	100 µF 16V
C507-513	ECHU1C104JB	Plastic	0.1 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C514	YF400104FZT	Ceramic	0.1 µF
C515	YWRVW1C101	Electrolytic	100 µF 16V
C518,519	ECHU1C104JB	Plastic	0.1 µF 16V
C520	YWRVW1C101	Electrolytic	100 µF 16V
C521	ECHU1C104JB	Plastic	0.1 µF 16V
C522	YWRVW1C101	Electrolytic	100 µF 16V
C523-527	ECHU1C104JB	Plastic	0.1 µF 16V
C528	YF400681CHJT	Ceramic	680 µF 50V
C529	ECHU1C153JB	Plastic	0.015 µF 16V
C530	YF400681CHJT	Ceramic	680 µF 50V
C532	YF400104FZT	Ceramic	0.1 µF
C533	YWRVW1C470	Electrolytic	47 µF 16V
C534,536	ECHU1H271JB	Plastic	270 pF 50V
C537,539	ECHU1H101JB	Plastic	100 pF 50V
C541,542	ECHU1H104JB	Plastic	0.1 µF 50V
C544,545	YF400221CHJT	Ceramic	220 pF
C546,547	ECHU1H104JB	Plastic	0.1 µF 50V
C548,549	YWRVW1E101	Electrolytic	100 µF 25V
C550	YW400122CHJT	Ceramic	1200 pF
C551	YW400332CHJT	Ceramic	3300 pF
C552	YWRVW1C470	Electrolytic	47 µF 16V
C554	YF400104FZT	Ceramic	0.1 µF
C555	YWRVW1C470	Electrolytic	47 µF 16V
C556,558	ECHU1H271JB	Plastic	270 pF 50V
C559	ECHU1H101JB	Plastic	100 pF 50V
C562,563	ECHU1H104JB	Plastic	0.1 µF 50V
C565	YF400221CHJT	Ceramic	220 pF
C566,567	ECHU1H104JB	Plastic	0.1 µF 50V
C568	YF400221CHJT	Ceramic	220 pF
C569,570	YWRVW1E101	Electrolytic	100 µF 25V
C571	YW400122CHJT	Ceramic	1200 pF
C572	YW400332CHJT	Ceramic	3300 pF
C573	YWRVW1C470	Electrolytic	47 µF 16V
C574	YF400220CHJT	Ceramic	22 pF
C575,576	ECHU1H104JB	Plastic	0.1 µF 50V
C577,578	YWRVW1E221	Electrolytic	220 µF 25V
C579	YF400220CHJT	Ceramic	22 pF
C580,581	YWRVW1C221	Electrolytic	220 µF 16V
C582,583	YF400101CHJT	Ceramic	100 pF
C584	YF400220CHJT	Ceramic	22 pF
C585,586	ECHU1H104JB	Plastic	0.1 µF 50V
C587,588	YWRVW1E221	Electrolytic	220 µF 25V
C589	YF400220CHJT	Ceramic	22 pF
C590,591	YWRVW1C221	Electrolytic	220 µF 16V
C592,593	YF400101CHJT	Ceramic	100 pF
C594	YF400220CHJT	Ceramic	22 pF
C595,596	ECHU1H104JB	Plastic	0.1 µF 50V
C599	YF400101CHJT	Ceramic	100 pF
C600	YF400220CHJT	Ceramic	22 pF
C602,603	YWRVW1C221	Electrolytic	220 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C604	ECHU1H101JB	Plastic	100 µF 50V
C611	YF400220CHJT	Ceramic	22 pF
C612,613	ECHU1H104JB	Plastic	0.1 µF 50V
C614,615	YWRVW1E221	Electrolytic	220 µF 25V
C616	YWRVW1C221	Electrolytic	220 µF 16V
C617	YF400101CHJT	Ceramic	100 pF
C618	YF400220CHJT	Ceramic	22 pF
C619	YWRVW1C221	Electrolytic	220 µF 16V
C620	YF400101CHJT	Ceramic	100 pF
C621,622	YF400104FZT	Ceramic	0.1 µF
C624	YF400101CHJT	Ceramic	100 pF
C651	YF400681CHJT	Ceramic	680 µF 50V
C652	ECHU1C153JB	Plastic	0.015 µF 16V
C653	YF400681CHJT	Ceramic	680 µF 50V
C654	YWRVW1C101	Electrolytic	100 µF 16V
C655	ECHU1C104JB	Plastic	0.1 µF 16V
C656	YWRVW1C101	Electrolytic	100 µF 16V
C657-663	ECHU1C104JB	Plastic	0.1 µF 16V
C664	YF400104FZT	Ceramic	0.1 µF
C665	YWRVW1C101	Electrolytic	100 µF 16V
C668,669	ECHU1C104JB	Plastic	0.1 µF 16V
C670	YWRVW1C101	Electrolytic	100 µF 16V
C671	ECHU1C104JB	Plastic	0.1 µF 16V
C672	YWRVW1C101	Electrolytic	100 µF 16V
C673-677	ECHU1C104JB	Plastic	0.1 µF 16V
C678	YF400681CHJT	Ceramic	680 µF 50V
C679	ECHU1C153JB	Plastic	0.015 µF 16V
C680	YF400681CHJT	Ceramic	680 µF 50V
C681	YWRVW1C470	Electrolytic	47 µF 16V
C682	YF400104FZT	Ceramic	0.1 µF
C684	ECHU1H271JB	Plastic	270 pF 50V
C685	ECHU1H101JB	Plastic	100 pF 50V
C688,689	ECHU1H104JB	Plastic	0.1 µF 50V
C691	ECHU1H271JB	Plastic	270 pF 50V
C692	ECHU1H101JB	Plastic	100 pF 50V
C694,695	YF400221CHJT	Ceramic	220 pF
C696,697	ECHU1H104JB	Plastic	0.1 µF 50V
C698,699	YWRVW1E101	Electrolytic	100 µF 25V
C700	YW400332CHJT	Ceramic	3300 pF
C701	YW400122CHJT	Ceramic	1200 pF
C703	YF400101CHJT	Ceramic	100 pF
C704,705	ECHU1H104JB	Plastic	0.1 µF 50V
C706,707	YWRVW1E101	Electrolytic	100 µF 25V
C712	YF400104FZT	Ceramic	0.1 µF
C713	YWRVW1C470	Electrolytic	47 µF 16V
C715	ECHU1H271JB	Plastic	270 pF 50V
C716	ECHU1H101JB	Plastic	100 pF 50V
C719,720	ECHU1H104JB	Plastic	0.1 µF 50V
C721	ECHU1H101JB	Plastic	100 pF 50V
C723	ECHU1H271JB	Plastic	270 pF 50V

REF. NO.	PART NO.	DESCRIPTION	
C725,726	YF400221CHJT	Ceramic	220 pF
C727,728	ECHU1H104JB	Plastic	0.1 µF 50V
C729,730	YWRVW1E101	Electrolytic	100 µF 25V
C731	YW400332CHJT	Ceramic	3300 pF
C733	YW400122CHJT	Ceramic	1200 pF
C734	YF400101CHJT	Ceramic	100 pF
C741	YF400104FZT	Ceramic	0.1 µF
C742	ECHU1H104JB	Plastic	0.1 µF 50V
C743	YWRVW1C101	Electrolytic	100 µF 16V
C744	YW400821CHJT	Ceramic	820 pF
C745,746	YF400221CHJT	Ceramic	220 pF
C748,749	YWRVW1E101	Electrolytic	100 µF 25V
C750	YW400821CHJT	Ceramic	820 pF
C751,752	YF400221CHJT	Ceramic	220 pF
C756	YF400220CHJT	Ceramic	22 pF
C757,758	ECHU1H104JB	Plastic	0.1 µF 50V
C759,760	YWRVW1E221	Electrolytic	220 µF 25V
C761	YF400220CHJT	Ceramic	22 pF
C762,763	YWRVW1C221	Electrolytic	220 µF 16V
C764,765	YF400101CHJT	Ceramic	100 pF
C766	YF400220CHJT	Ceramic	22 pF
C767,768	ECHU1H104JB	Plastic	0.1 µF 50V
C769,770	YWRVW1E221	Electrolytic	220 µF 25V
C771	YF400220CHJT	Ceramic	22 pF
C772,773	YWRVW1C221	Electrolytic	220 µF 16V
C774,775	YF400101CHJT	Ceramic	100 pF
C776	YF400220CHJT	Ceramic	22 pF
C777,778	ECHU1H104JB	Plastic	0.1 µF 50V
C779,780	YWRVW1E221	Electrolytic	220 µF 25V
C781	YF400220CHJT	Ceramic	22 pF
C782,783	YWRVW1C221	Electrolytic	220 µF 16V
C784,785	YF400101CHJT	Ceramic	100 pF
C786	YF400220CHJT	Ceramic	22 pF
C787,788	ECHU1H104JB	Plastic	0.1 µF 50V
C789,790	YWRVW1E221	Electrolytic	220 µF 25V
C791	YF400220CHJT	Ceramic	22 pF
C792,793	YWRVW1C221	Electrolytic	220 µF 16V
C794	YF400101CHJT	Ceramic	100 pF
C796,797	ECHU1H104JB	Plastic	0.1 µF 50V
C802,803	ECHU1H104JB	Plastic	0.1 µF 50V
C804	YF400101CHJT	Ceramic	100 pF
C811,812	YF400104FZT	Ceramic	0.1 µF
C813	YF400104FZT	Ceramic	0.1 µF
C814-817	YF400101CHJT	Ceramic	100 pF
C818	ECEV1EG101	Electrolytic	100 µF 25V
C819	YF400104FZT	Ceramic	0.1 µF
C820	YWRVW1E470	Electrolytic	47 µF 25V
C821	YF400104FZT	Ceramic	0.1 µF
C822	YWRVW1E470	Electrolytic	47 µF 25V
C823-826	YF400101CHJT	Ceramic	100 pF

REF. NO.	PART NO.	DESCRIPTION	
C827	ECEV1EG101	Electrolytic	100 µF 25V
C828	YF400104FZT	Ceramic	0.1 µF
C829,830	ECHU1H104JB	Plastic	0.1 µF 50V
C831	YF400101CHJT	Ceramic	100 pF
C832,833	ECHU1H104JB	Plastic	0.1 µF 50V
C834	YF400101CHJT	Ceramic	100 pF
C835	YWRVW1C470	Electrolytic	47 µF 16V
C837,838	YF400104FZT	Ceramic	0.1 µF
C840,842	YF400104FZT	Ceramic	0.1 µF
C843,844	YF400104FZT	Ceramic	0.1 µF
C845	YF400104FZT	Ceramic	0.1 µF
C846	YF400104FZT	Ceramic	0.1 µF
C847	YF400101CHJT	Ceramic	100 pF
C848	YF400104FZT	Ceramic	0.1 µF
C849-855	YF400101CHJT	Ceramic	100 pF
C856-859	YF400104FZT	Ceramic	0.1 µF
C860,901	YF400101CHJT	Ceramic	100 pF
C907,908	YWRVW1C470	Electrolytic	47 µF 16V
C909	ECHU1C104JB	Plastic	0.1 µF 16V
C910	YF400181CHJT	Ceramic	180 pF
C911	ECHU1C104JB	Plastic	0.1 µF 16V
C912	YF400820CHJT	Ceramic	82 pF
C913	YW400152CHJT	Ceramic	1500 pF
C915	YWRVW1C101	Electrolytic	100 µF 16V
C916	ECHU1C104JB	Plastic	0.1 µF 16V
C918	YF400104FZT	Ceramic	0.1 µF
C919	YWRVW1C470	Electrolytic	47 µF 16V
C920	ECHU1C104JB	Plastic	0.1 µF 16V
C921	YWRVW1C470	Electrolytic	47 µF 16V
C922	YF400101CHJT	Ceramic	100 pF
C924	YWRVW1C470	Electrolytic	47 µF 16V
C925	YF400181CHJT	Ceramic	180 pF
C926	ECHU1C104JB	Plastic	0.1 µF 16V
C927	YF400820CHJT	Ceramic	82 pF
C928	YW400152CHJT	Ceramic	1500 pF
C929	YWRVW1C470	Electrolytic	47 µF 16V
C930	YF400221CHJT	Ceramic	220 pF
C931,932	ECHU1H104JB	Plastic	0.1 µF 50V
C933,934	YWRVW1E101	Electrolytic	100 µF 25V
C935	YWRVW1C470	Electrolytic	47 µF 16V
C936	YF400101CHJT	Ceramic	100 pF
C937	YWRVW1C470	Electrolytic	47 µF 16V
C938	YF400101CHJT	Ceramic	100 pF
C939	YWRVW1C470	Electrolytic	47 µF 16V
C940,941	YF400101CHJT	Ceramic	100 pF
C947	YWRVW1C470	Electrolytic	47 µF 16V
C950	YF400181CHJT	Ceramic	180 pF
C951	ECHU1C104JB	Plastic	0.1 µF 16V
C952	YF400820CHJT	Ceramic	82 pF
C953	YW400152CHJT	Ceramic	1500 pF

REF. NO.	PART NO.	DESCRIPTION	
C954	YWRVW1C101	Electrolytic	100 µF 16V
C955	ECHU1C104JB	Plastic	0.1 µF 16V
C957	YF400104FZT	Ceramic	0.1 µF
C958	YWRVW1C470	Electrolytic	47 µF 16V
C960	YF400101CHJT	Ceramic	100 pF
C962	YWRVW1C470	Electrolytic	47 µF 16V
C963	YF400181CHJT	Ceramic	180 pF
C964	ECHU1C104JB	Plastic	0.1 µF 16V
C965	YF400820CHJT	Ceramic	82 pF
C966	YW400152CHJT	Ceramic	1500 pF
C967	YWRVW1C470	Electrolytic	47 µF 16V
C968	YF400221CHJT	Ceramic	220 pF
C969,970	ECHU1H104JB	Plastic	0.1 µF 50V
C971,972	YWRVW1E101	Electrolytic	100 µF 25V
C973	YWRVW1C470	Electrolytic	47 µF 16V
C974	YF400101CHJT	Ceramic	100 pF
C975	YWRVW1C470	Electrolytic	47 µF 16V
C976	YF400101CHJT	Ceramic	100 pF
C977	YWRVW1C470	Electrolytic	47 µF 16V
C978	YF400101CHJT	Ceramic	100 pF
C979,980	YF400470CHJT	Ceramic	47 pF
C982,985	YF400104FZT	Ceramic	0.1 µF
C986	YF400104FZT	Ceramic	0.1 µF
C988,989	YF400470CHJT	Ceramic	47 pF
C990	ECHU1C104JB	Plastic	0.1 µF 16V
C991,999	YWRVW1C470	Electrolytic	47 µF 16V
C1001-1004	YWRVW1C470	Electrolytic	47 µF 16V
C1005	ECST1CY105ZR	Plastic	1 µF 16V
C1006	YF400104FZT	Ceramic	0.1 µF
C1018	YF400300CHJT	Ceramic	30 pF
C1019	YF400270CHJT	Ceramic	27 pF
C1020	YW400160CHJT	Ceramic	16 pF 50V
C1021	YF400820CHJT	Ceramic	82 pF
C1022	YF400200CHJT	Ceramic	20 pF
C1023	YF400820CHJT	Ceramic	82 pF
C1024	YF400200CHJT	Ceramic	20 pF
C1025	YF400510CHJT	Ceramic	51 pF
C1026	YW400821CHJT	Ceramic	820 pF
C1027	YF400300CHJT	Ceramic	30 pF
C1028	YF400270CHJT	Ceramic	27 pF
C1029	YW400160CHJT	Ceramic	16 pF
C1030	YF400820CHJT	Ceramic	82 pF
C1031	YF400200CHJT	Ceramic	20 pF
C1032	YF400820CHJT	Ceramic	82 pF
C1033	YF400200CHJT	Ceramic	20 pF
C1034	YF400510CHJT	Ceramic	51 pF
C1035	YW400821CHJT	Ceramic	820 pF
C1036-1043	YF400104FZT	Ceramic	0.1 µF
C1044-1046	RVP1C470G10	Electrolytic	47 µF 16V
C1047	RVP1C470G10	Electrolytic	47 µF 16V

REF. NO.	PART NO.	DESCRIPTION	
C1048	YF400104FZT	Ceramic	0.1 µF
C1049	EEVHB1H100P	Electrolytic	10 µF 50V
C1052	YF400104FZT	Ceramic	0.1 µF
C1100	ECST1CY475R	Plastic	47 µF 16V
C1101	ECST1CY105ZR	Plastic	1 µF 16V
C1114,1116	ECKF1H102KB	Ceramic	1000pF 5W
C1118,1121	ECKF1H102KB	Ceramic	1000pF 5W
C1123	MCUV1H562KBN	Ceramic	5600 pF 16V
C1126	YF400104FZT	Ceramic	0.1 µF
C1127-1130	ECEVW1EA221P	Electrolytic	220 µF 25V
C1131-1134	YWRVW1C470	Electrolytic	47 µF 16V
C1135	EEVHA1C221P	Electrolytic	220 µF 16V
L143	YWBLM21B03PB	Coil	
L401	YWZBF503S01	Coil	
L404,406	YWBLM21B03PB	Coil	
L408,410	YWBLM21B03PB	Coil	
L412,416	YWBLM21B03PB	Coil	
L418,420	YWBLM21B03PB	Coil	
L421-428	YWBLM21B03PB	Coil	
L501-508	YWBLM21A05PT	Coil	
L511-513	YWBLM21B03PB	Coil	
L653	YWBLM21B03PB	Coil	
L654-665	YWBLM21A05PT	Coil	
L668-674	YWBLM21B03PB	Coil	
L677,678	YWBLM21B03PB	Coil	
L683,800	YWBLM21B03PB	Coil	
L801	YWBLM21B03PB	Coil	
L802,901	YWBLM21A05PT	Coil	
L902-910	YWBLM21A05PT	Coil	
L1009	YWNL323R3J	Coil	3.3 µH
L1010,1012	YWNL321R8J	Coil	1.8 µH
L1014,1015	YWNL323R3J	Coil	3.3 µH
L1016,1018	YWNL321R8J	Coil	1.8 µH
L1020	YWNL323R3J	Coil	3.3 µH
T901,902	YWPT1099	High Freq Transformer	
CN33	YW520454010	40-pin Connector	
CN52	YW521471310	13-pin Connector	
CN53	YW521470710	7-pin Connector	
CN54,55	YW521471510	15-pin Connector	
CN58	YWB8BPHSM3TB	8-pin Connector	
CN99	B10BPHSM3TB	10-pin Connector	
CN501,502	YWNC3MBH1	Connector	
JK503,504	YWYKB215261	Jack	
JK651-656	YWYKB215261	Jack	
JK901-904	YWYKB215261	Jack	
JK905	YWYKC213924	Jack	
M35	YWA3BA1039A4	Supporting Angle	
M36	YWA2SA4485A4	Mounting Angle	

REF. NO.	PART NO.	DESCRIPTION	
METER BOARD			
PCB5 (RTL)	YWR00DA7KYCA	Printed Circuit Board Assy	
D201-208	YWSML210VT86	LED	
D209-226	YWSML210DT86	LED	
D227	YWGL7H201	LED	
D229-244	YWSML210MT86	LED	
D245	YWSML210VT86	LED	
D228	1SS353TE17	Diode	
SW201	EVQPJS04K	Push Switch	
CN66	YW524921720	17-pin Connector	
M23	YWA5XA0503A3	Reflection Plate	
INVERTER BOARD			
PCB6 (RTL)	YWR0DA7GKYDA	Printed Circuit Board Assy	
IC301	YWBP5311	IC	
IC302	YWCXAM10LL	IC	
R301	ERDS2TJ274	Carbon	270K ohms 1/4W
VR301	EVUF2AE35A55	Variable Resistor	500K ohms
C301	ECA1VM470	Electrolytic	47 µF 35V
C302	ECA1CM101	Electrolytic	100 µF 16V
C304	EXFP8102ZW	Ceramic	1000 pF
Z301	EXBF9E473J	Block Resistor	
CN32	YW521511310	13-pin Connector	
CN302	YW559712CPB	Connector	
E303	YWRDA7L67	Wire Assy for LCD unit	
MONITOR VR BOARD			
PCB7 (RTL)	YWR00DA7KB8A	Printed Circuit Board Assy	
IC1	YWUPC4570G	IC	
IC21	YWUPC4570G	IC	
IC41	NJM4558MT3	IC	
Q1,2	2SC4695TB	Transistor	
Q3,4	2SK374-RS	Transistor	
Q21,22	2SC4695TB	Transistor	
D41	YWMTZJ4.7BT77	Diode	
D101	MA723	Diode	
R1	YWR1220P472D	Metal	4.7K ohms
R2	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R4,5	YWR1220P103D	Metal	10K ohms
R6	YWR1220P472D	Metal	4.7K ohms
R8,9	YWR1220P473D	Metal	47K ohms
R10	YWR1220P472D	Metal	4.7K ohms

REF. NO.	PART NO.	DESCRIPTION	
R11	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R13,14	YWR1220P103D	Metal	10K ohms
R15	YWR1220P472D	Metal	4.7K ohms
R16	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R18	R1220P331D	Metal	330K ohms
R21	YWR1220P472D	Metal	4.7K ohms
R22	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R24,25	YWR1220P103D	Metal	10K ohms
R26	YWR1220P472D	Metal	4.7K ohms
R28,29	YWR1220P473D	Metal	47K ohms
R30	YWR1220P472D	Metal	4.7K ohms
R31	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R33,34	YWR1220P103D	Metal	10K ohms
R35	YWR1220P472D	Metal	4.7K ohms
R36	ERJ6GEYJ473	Carbon	47K ohms 1/10W
R38	R1220P331D	Metal	330K ohms
R41	YFR1220P222D	Metal	2.2K ohms
R42	YWR1220P391D	Metal	390 ohms
R43	YWR1220P333D	Metal	33K ohms
R44	YWR1220P472D	Metal	4.7K ohms
R45	YWR1220P103D	Metal	10K ohms
R46	YWR1220P473D	Metal	47K ohms
R47	YWR1220P332D	Metal	3.3K ohms
R48	YFR1220P104D	Metal	100K ohms
R49	YFR1220P222D	Metal	2.2K ohms
R101-104	ERDS2TJ104	Carbon	100K ohms 1/4W
VR1,21	EVJC20F03A24	Variable Resistor	20K ohms
VR41	EVJCC0F0346	Variable Resistor	
C1	YWRA216T330	Electrolytic	33 µF 16V
C2	YF400101CHJT	Ceramic	100 pF
C3,4	ECHU1H104JB	Plastic	0.1 µF 50V
C5,6	ECA1EM471B	Electrolytic	470 µF 25V
C7	YWRA216T330	Electrolytic	33 µF 16V
C8	YF400101CHJT	Ceramic	100 pF
C21	YWRA216T330	Electrolytic	33 µF 16V
C22	YF400101CHJT	Ceramic	100 pF
C23,24	ECHU1H104JB	Plastic	0.1 µF 50V
C25,26	ECA1EM471B	Electrolytic	470 µF 25V
C27	YWRA216T330	Electrolytic	33 µF 16V
C28	YF400101CHJT	Ceramic	100 pF
C41	YW400224XK	Ceramic	0.22 µF
C42	YW400102CHJT	Ceramic	1000 pF
C43	ECA1CM100B	Electrolytic	10 µF 16V
C44	ECA1HM010	Electrolytic	1 µF 50V
C45,46	YF400104FZT	Ceramic	0.1 µF
C47	ECA1CM100B	Electrolytic	10 µF 16V
C48	ECA1HM010	Electrolytic	1 µF 50V
C49	YF400391CHJT	Ceramic	390 pF
C50	ECA1HM010	Electrolytic	1 µF 50V
C101,102	YW400105XKT	Ceramic	1 µF

REF. NO.	PART NO.	DESCRIPTION	
C103,104	YW400103XK	Ceramic	0.01 µF
C105-108	YW400105FZ	Ceramic	1 µF
C151-154	ECQB1H471	Plastic	470pF 50V
C155,156	YW400104XK	Ceramic	0.1µF
C157,158	ECQV1H104	Ceramic	0.1µF 50V
C159-162	YWR2025T470	Electrolytic	47µF 25V
CN58	YWB8BEH	8-pin Connector	
CN99	YWB10BEH	10-pin Connector	
E59	YWRDA7L59A	Wire Assy for HP Board CN59	

TB BOARD

PCB8 (RTL)	YWR00DA7KC8A	Printed Circuit Board Assy	
C61	YF400100CHJT	Ceramic	10 pF
C62	YF400511CHJT	Ceramic	510 pF
CN97	JM18LH04AAT	Connector	
MIC41	YWWM034BX	MiC Unit	

HP BOARD

PCB9 (RTL)	YWR00DA7KD8A	Printed Circuit Board Accey	
IC1	NJM2068MD	IC	
IC2	YWUPC4570G	IC	
Q1,2	2SC4695TB	Transistor	
Q3	2SD1276A-PQ	Transistor	
Q4	2SC1318-RS	Transistor	
Q5	2SA720-RS	Transistor	
Q6	2SB950A-QR	Transistor	
Q7	2SD1276A-PQ	Transistor	
Q8	2SC1318-RS	Transistor	
Q9	2SA720-RS	Transistor	
Q10	2SB950A-QR	Transistor	
D1-4	MA111	Diode	
R1	YWR1220P472D	Metal	4.7K ohms
R2	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R4	YWR1220P472D	Metal	4.7K ohms
R5	R1220P132D	Metal	1.3K ohms
R6	R1220P822D	Metal	8.2K ohms
R7	YWR1220P103D	Metal	10K ohms
R8,9	YWR1220P473D	Metal	47K ohms
R10	ERD25FJ4R7	Carbon	4.7 ohms 1/4W
R11	YWR1220P103D	Metal	10K ohms
R12	YWR1220P472D	Metal	4.7K ohms
R13	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R15	YWR1220P472D	Metal	4.7K ohms

REF. NO.	PART NO.	DESCRIPTION	
R16	R1220P132D	Metal	1.3K ohms
R17	R1220P822D	Metal	8.2K ohms
R18	ERD25FJ4R7	Carbon	4.7 ohms 1/4W
R19	ER0S2CKF1002	Metal	10K ohms 1/4W
R20,21	YWR1220P301D	Metal	300 ohms
R22	ERDAS2TF1002	Metal	10K ohms 1/4W
R23,24	ERDS2TJ3R3	Carbon	3.3 ohms 1/4W
R25	ERDAS2TF1002	Metal	10K ohms 1/4W
R26,27	YWR1220P301D	Metal	300 ohms
R28	ERDAS2TF1002	Metal	10K ohms 1/4W
R29,30	ERDS210TJ3R3	Carbon	3.3 ohms 1/4W
R31	R1220P133D	Metal	13K ohms
R32	YWR1220P472D	Metal	4.7K ohms
R33	R1220P132D	Metal	1.3K ohms
R34	R1220P822D	Metal	8.2K ohms
R35	R1220P133D	Metal	13K ohms
R36	YWR1220P472D	Metal	4.7K ohms
R37	R1220P132D	Metal	1.3K ohms
R38	R1220P822D	Metal	8.2K ohms
R39-42	ERJ6GEY0R00	Cabon	0 ohm 1/10W
VR1	EVJC20F01A24	Variable Resistor	20K ohms
C1	YWRA216T330	Electrolytic	33 µF 16V
C2	YF400220CHJT	Ceramic	22 pF
C3,4	ECFR1H104ZF	Ceramic	0.1 µF 50V
C5,6	ECA1EM471	Electrolytic	470 µF 25V
C7,11	RA216T471	Electrolytic	470 µF 16V
C9	YWRA216T330	Electrolytic	33 µF 16V
C10	YF400220CHJT	Ceramic	22 pF
C13-18	YF400151CHJT	Ceramic	150 pF
C19	YF400221CHJT	Ceramic	220 pF
C20	YF400220CHJT	Ceramic	22 pF
C21	YF400221CHJT	Ceramic	220 pF
C22	YF400220CHJT	Ceramic	22 pF
C100,101	400105FZ	Ceramic	1 µF
C102,103	ECHU1C104JB	Plastic	0.1 µF 16V
C104,105	YWRA216V330	Electrolytic	33 µF 16V
C106,107	YW400103XK	Ceramic	0.01 µF
L1,2	YWBLM21B03PB	Coil	
JK1	YWYKB215261	Jack	
CN59	YWB7BEH	7-pin Connector	
M64	YWA7DA1074A4	Heat Sink	
M65	YWA2PA1132A4	Insulator	

REF. NO.	PART NO.	DESCRIPTION
MAIN BOARD		
PCB10 (RTL)	YWR0DA7GKZ1A	Printed Circuit Board Assy
IC1	YWHD77034F20	IC
IC2	YWACSA0502CN	CustomIC
IC3-6	YWM51008F7LL	IC
IC7,8	YWM51957BFP	IC
IC9	YWNJM082M	IC
IC10	YWT74VHC04FL	IC
IC11-13	YWT74VHC138F	IC
IC14	YWMC74HC160F	IC
IC15	YWMCHC74AE	IC
IC16,17	MC74HC273AF	IC
IC18	YWSED1351F0A	LSI
IC19	YWM51008F7LL	IC
IC20	MC74HC541AF	IC
IC21	YWUPD71051GB	IC
IC22	MC74HC541AF	IC
IC23	MC74HC574AF	IC
IC24	YWMC74HC151F	IC
IC25	TC74HCU04AF	IC
IC26	YWMC74HC153F	IC
IC27,28	MC74HC161AF	IC
IC30	MC74HC4046AF	IC
IC31	YWT74VHC32FL	IC
IC33,36	YWCS8412CS	Custom IC
IC34	MC74HC125AF	IC
IC35	YWTC7W04FL	IC
IC37	YWTC9271FELP	LSI
IC40	YWMC74HC153F	IC
IC41	M26LS31CNS	IC
IC42	YWSN74LS14NS	IC
IC43	AM26LS32ACNS	IC
IC45	YWTC7S04F	IC
IC50	YWTC7W32FL	IC
IC51	MC74HC161AF	IC
IC52	YWMCHC74AE	IC
IC53	YWT74VHC74FL	IC
IC54	YWTC7S04F	IC
IC55	YWMCHC74AE	IC
IC56	T74VHC175FL	IC
IC57	YWT74VHC32FL	IC
IC300	YWACSA0507CN	Custom IC
IC304	IDT71016S15Y	LSI
IC308	MC74HC245AF	IC
IC309,311	MC74HC138AF	IC
IC312	MC74HC138AF	IC

REF. NO.	PART NO.	DESCRIPTION
IC313	MC74HC14AF	IC
IC314	YWMC74LS05F	IC
IC315	YWPC400T	IC
IC316	T74VHC175FL	IC
IC317	YWT74VHC04FL	IC
IC318	YWT74VHC74FL	IC
IC319	YWT74VHC32FL	IC
IC401	YWMC74HC11F	IC
IC402,403	MC74HC541AF	IC
IC404	MC74HC245AF	IC
IC405-409	MC74HC541AF	IC
IC410,411	YWMC74LS05F	IC
IC412,413	MC74HC541AF	IC
IC501-519	TMS57070FFT	IC
IC520-522	YWT6G22U1057	IC
IC523-525	YWT9G16F0020	LSI
IC526	YWT9G10F0017	IC
IC527	YWT6G22U1057	IC
IC528,529	YWHM514800CJ	IC
IC530	YWT74VHC574FL	IC
IC531,532	YWHM514800CJ	IC
IC533	YWT74VHC574FL	IC
IC534	YWT74VHC540FL	IC
IC535,537	YWT74VHC245F	IC
IC536	MC74HC125AF	IC
IC538	YWT74VHC245F	IC
IC539	YWT74VHC157FL	IC
IC540,541	YWT74VHC574FL	IC
IC544-546	YWT74VHC574FL	IC
IC547	YWT74VHC174FL	IC
IC548	YWT74VHC157FL	IC
IC549,550	YWMC74HC74AE	IC
IC551	MC74HC125AF	IC
IC552	YW78L05UATE2	IC
IC1000	YWTC7W74FL	IC
Q1	DTC114TK-T46	Transistor
Q3	2SB709A-RS	Transistor
Q4	2SD601A-RS	Transistor
Q8	DTC114EK-T46	Transistor
Q9	DTA114EK-T47	Transistor
Q10	DTC143ZKAT46	Transistor
Q11	2SB709A-RS	Transistor
Q12	2SD601A-RS	Transistor
Q13	2SD874A-RS	Transistor
Q14	2SB766A-RS	Transistor
Q15	DTC114TK-T46	Transistor
Q16	DTA114EK-T46	Transistor
D1	MA704	Diode
D16,17	MA111	Diode
D18,20	YWUDZ5.1B	Diode

REF. NO.	PART NO.	DESCRIPTION	
D302-308	YWDA204K	Diode	
D310	MA111	Diode	
R1	YWR1220P912D	Metal	9.2K ohms
R2	YWR1220P332D	Metal	3.3K ohms
R5	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R6	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R7	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R8-11	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R12	YW2116105JT	Carbon	1M ohms 1/10W
R15	YF2116471JT	Carbon	470 ohms 1/10W
R16,17	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R18	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R19,20	YW2116105JT	Carbon	1M ohms 1/10W
R21,22	YF2116301JT	Carbon	300 ohms 1/10W
R23	YFR1220P113D	Metal	11K ohms
R24	R1220P133D	Metal	13K ohms
R25	YWR1220P273D	Metal	27K ohms
R26	YWR1220P472D	Metal	4.7K ohms
R31	ERJ8GEYJ111	Carbon	110 ohms 1/10W
R33,34	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R35	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R36	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R37	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R39	ERDS2TJ111	Carbon	110 ohms 1/4W
R42,43	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R46	ERJ12YJ750	Carbon	75 ohms 1/10W
R47-51	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R52,53	ERJ8GCSG221	Carbon	220 ohms 1/8W
R54	ERJ14YJ111	Carbon	110 ohms 1/10W
R56,57	YF2116100JT	Carbon	10 ohms 1/10W
R60	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R61	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R62	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R64,65	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R66	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R70	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R71	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R72	YF21165561JT	Carbon	560 ohms 1/10W
R73	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R74,75	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R76,77	ERJ1WYJ100	Carbon	10 ohms 1/10W
R325	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R326	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R328	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R329	YF2116272JT	Carbon	2.7K ohms 1/10W
R330-332	YF2116221JT	Carbon	220 ohms 1/10W
R334	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R335	YF2116471JT	Carbon	470 ohms 1/10W
R336,337	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R340,401	ERJ6GEYJ223	Carbon	22K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R408	YF2116473GT	Carbon	47K ohms 1/10W
R410	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R501-576	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R579	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R801	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R802-810	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R901,902	ERJ6GEYJ220	Carbon	22 ohms 1/10W
R951	ERJ6GEYJ220	Carbon	22 ohms 1/10W
R952,953	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R954	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R955	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R956	ERJ6GEYJ111	Carbon	110 ohms 1/10W
R960-962	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R963-965	ERJ6GEYJ102	Carbon	1K ohms 1/10W
Z2,4	EXBV8V223J	Block Resistor	
Z5-13	EXBV8V223J	Block Resistor	
Z16-20	EXBV8V223J	Block Resistor	
Z24,25	EXBV8V223J	Block Resistor	
Z304-313	EXBV8V223J	Block Resistor	
Z401-410	EXBV8V223J	Block Resistor	
C1-9	YF400104FZT	Ceramic	0.1 µF
C10	ECSH1AX106CR	Tantalum	10 µF 10V
C11	EEVHB1H1R0R	Electrolytic	1 µF 50V
C12	YF400104FZT	Ceramic	0.1 µF
C13	YF400104FZT	Ceramic	0.1 µF
C14	YF400272XKT	Ceramic	2700pF
C15,16	YF400470CHJT	Ceramic	47 pF
C17	EEVHA1C221P	Electrolytic	220 µF 16V
C18	EEVHB1H100P	Electrolytic	10 µF 50V
C19-25	YF400104FZT	Ceramic	0.1 µF
C26,27	YF400270CHJT	Ceramic	27 pF
C28-46	YF400104FZT	Ceramic	0.1 µF
C48,49	YF400104FZT	Ceramic	0.1 µF
C64	ECHU1C153JB5	Plastic	0.015 µF 16V
C65	ECHU1C823JB5	Plastic	0.082 µF 16V
C66,67	YF400270CHJT	Ceramic	27 pF
C68,69	YF400240CHJT	Ceramic	24 pF
C70	EEVHB1H1R0R	Electrolytic	1 µF 50V
C71,72	YF400104FZT	Ceramic	0.1 µF
C73	YF400510CHJT	Ceramic	51 pF
C74,76	YF400104FZT	Ceramic	0.1 µF
C77-81	YF400104FZT	Ceramic	0.1 µF
C84-86	YF400104FZT	Ceramic	0.1 µF
C95-106	YF400470CHJT	Ceramic	47 pF
C111-121	YF400104FZT	Ceramic	0.1 µF
C122-129	YF400470CHJT	Ceramic	47 pF
C130,131	YW400473XK	Ceramic	0.047 µF
C132,134	YF400104FZT	Ceramic	0.1 µF
C135	YF400104FZT	Ceramic	0.1 µF
C136-138	YF400104FZT	Ceramic	0.1 µF

REF. NO.	PART NO.	DESCRIPTION	
C140-147	YF400104FZT	Ceramic	0.1 µF
C150	YF400104FZT	Ceramic	0.1 µF
C151-153	YF400560CHJT	Ceramic	56 pF
C154,155	YF400103XKT	Ceramic	0.01 µF
C156-160	YF400221CHJT	Ceramic	220 pF
C170,171	YF400103FZT	Ceramic	0.01 µF
C172,173	YF400104FZT	Ceramic	0.1 µF
C174	EEVHB1H100P	Electrolytic	10 µF 50V
C301-306	YW400821CHJT	Ceramic	820 pF
C307	EEVHB1H1R0R	Electrolytic	1 µF 50V
C308	YF400104FZT	Ceramic	0.1 µF
C310,311	YF400270CHJT	Ceramic	27 pF
C315,316	YF400104FZT	Ceramic	0.1 µF
C320,321	YF400104FZT	Ceramic	0.1 µF
C323-332	YF400104FZT	Ceramic	0.1 µF
C333	YF400470CHJT	Ceramic	47 pF
C334	YF400104FZT	Ceramic	0.1 µF
C335,336	YF400470CHJT	Ceramic	47 pF
C337-342	YF400104FZT	Ceramic	0.1 µF
C345-348	YF400104FZT	Ceramic	0.1 µF
C401-404	YF400104FZT	Ceramic	0.1 µF
C406	EEVHB1H100P	Electrolytic	10 µF 50V
C407-409	YF400104FZT	Ceramic	0.1 µF
C411,412	YF400104FZT	Ceramic	0.1 µF
C415	YF400104FZT	Ceramic	0.1 µF
C416	EEVHB1C470P	Electrolytic	47 µF 16V
C417-420	YF400104FZT	Ceramic	0.1 µF
C422-424	YF400104FZT	Ceramic	0.1 µF
C502,506	YF400104FZT	Ceramic	0.1 µF
C509-511	YF400104FZT	Ceramic	0.1 µF
C513,515	YF400104FZT	Ceramic	0.1 µF
C516,518	YF400104FZT	Ceramic	0.1 µF
C519,521	YF400104FZT	Ceramic	0.1 µF
C523,525	YF400104FZT	Ceramic	0.1 µF
C528,529	YF400104FZT	Ceramic	0.1 µF
C531,533	YF400104FZT	Ceramic	0.1 µF
C535,538	YF400104FZT	Ceramic	0.1 µF
C539,542	YF400104FZT	Ceramic	0.1 µF
C544,546	YF400104FZT	Ceramic	0.1 µF
C547,549	YF400104FZT	Ceramic	0.1 µF
C550,554	YF400104FZT	Ceramic	0.1 µF
C556,558	YF400104FZT	Ceramic	0.1 µF
C559,562	YF400104FZT	Ceramic	0.1 µF
C564,566	YF400104FZT	Ceramic	0.1 µF
C569,570	YF400104FZT	Ceramic	0.1 µF
C574,576	YF400104FZT	Ceramic	0.1 µF
C577,579	YF400104FZT	Ceramic	0.1 µF
C580,582	YF400104FZT	Ceramic	0.1 µF
C583,585	YF400104FZT	Ceramic	0.1 µF
C587,590	YF400104FZT	Ceramic	0.1 µF

REF. NO.	PART NO.	DESCRIPTION	
C591,595	YF400104FZT	Ceramic	0.1 µF
C597,600	YF400104FZT	Ceramic	0.1 µF
C601,604	YF400104FZT	Ceramic	0.1 µF
C606,608	YF400104FZT	Ceramic	0.1 µF
C609,611	YF400104FZT	Ceramic	0.1 µF
C612,614	YF400104FZT	Ceramic	0.1 µF
C615,618	YF400104FZT	Ceramic	0.1 µF
C620,623	YF400104FZT	Ceramic	0.1 µF
C624,626	YF400104FZT	Ceramic	0.1 µF
C628,631	YF400104FZT	Ceramic	0.1 µF
C632,636	YF400104FZT	Ceramic	0.1 µF
C638,641	YF400104FZT	Ceramic	0.1 µF
C642,646	YF400104FZT	Ceramic	0.1 µF
C648-662	YF400104FZT	Ceramic	0.1 µF
C665,668	YF400104FZT	Ceramic	0.1 µF
C669,672	YF400104FZT	Ceramic	0.1 µF
C674,677	YF400104FZT	Ceramic	0.1 µF
C678,679	YF400104FZT	Ceramic	0.1 µF
C681,683	YF400104FZT	Ceramic	0.1 µF
C686,687	YF400104FZT	Ceramic	0.1 µF
C689,692	YF400104FZT	Ceramic	0.1 µF
C693-704	YF400104FZT	Ceramic	0.1 µF
C707-713	YF400104FZT	Ceramic	0.1 µF
C714	YF400101CHJT	Ceramic	100 pF
C952	YF400100CHDT	Ceramic	10 pF
C953-956	MCUV1H103ZFN	Plastic	0.01 µF 50V
C957	MCUV1H221JCN	Ceramic	220 pF 50V
C1019	YF400104FZT	Ceramic	0.1 µF
C1020	MCUV1E104KBN	Plastic	0.1 µF 25V
L1,2	YWZBF503S01	Coil	
L10,11	YWBLM21B03PB	Coil	
L16-21	YWBLM21B03PB	Coil	
L23-28	YWBLM21B03PB	Coil	
L30,302	YWBLM21B03PB	Coil	
L303,305	YWBLM21B03PB	Coil	
L306,401	YWBLM21B03PB	Coil	
L405	YWZBF503S01	Coil	
L407,501	YWBLM21B03PB	Coil	
L502,503	YWBLM21B03PB	Coil	
T1,2	YWPT1099	High Freq Transformer	
SW1-3	ESD177211	Slide Switch	
X1	YWMA4062000M	Crystal Oscillator	
X2	YWMA4061228M	Crystal Oscillator	
X3	YWMA4061128M	Crystal Oscillator	
X301	YWMA4062000M	Crystal Oscillator	
CF1-6	ELKE221FA	LC Filter	
CF7,8	ELKE103FA	LC Filter	
CF9-12	ELK102FA	LC Filter	
CF307-312	YWBLM21A601T	LC Filter	
CN1	YW521471310	13-pin Connector	

REF. NO.	PART NO.	DESCRIPTION
CN2	YW520454010	40-pin Connector
CN32	YW521471310	13-pin Connector
CN33	YW520454010	40-pin Connector
CN35	YW528083090	30-pin Connector
CN37	YWXC5B64310A	Connector
CN38	YWP2183	4-pin BNC Connector
CN40	XM3B0922502	9-pin Connector
CN41	TCS792728401	Connector
CN42,43	YWTCS508445	Connector
CN44	XM3B1522502	Connector
CN46	YWNC3FBH1	Connector
CN47	YWNC3MBH	Connector
CN50	YWTKCF16XE1	Connector
CN101	YWHL32A2	Connector
JK49	YWYKB215261	Jack
E1	YWXM2Z0021	Special Screws
E2	YWA2PA1155A4	Insulator Washer
E36	YWRDA7L36	Wire Assy for Power-2 Board CN36
E64	YWRDA7L64A	Wire Assy for Power-2 Board CN64
M75	YWA3BA1040A4	Supporting Angle
M77	YWA5WA2358B1	Panel

BUS RELAY BOARD

PCB11 (RTL)	YWR00DA7KZ2A	Printed Circuit Board Assy
R1-6	ERDS2TJ103	Carbon 10K ohms 1/4W
CN3-5	YWXC5B64310A	Connector
CN37	YWXC5A64821A	Connector
CN50	YWTKCF16PE3	Connector

INPUT SWITCH BOARD

PCB12 (RTL)	YWR00DA7KZ7A	Printed Circuit Board Assy
IC602,604	YWTD62783AP	IC
IC606	YWTD62783AP	IC
IC609,610	YWTD62318AP	IC
IC612,613	YWTD62318AP	IC
D601-712	YWSPR325MVWT	LED
D713-728	YWSLR325VRT	LED
D729-744	YWSPR325MVWT	LED
D745-760	YWSLR325DUT	LED
D761-776	YWSLR325VRT	LED
C601-610	UP050F104ZA	Ceramic
D777-840	YW1SS133T77	Diode
IC601,603	MC74HC574AN	IC
IC605	MC74HC574AN	IC
IC607	MC74HC541AN	IC

REF. NO.	PART NO.	DESCRIPTION	
IC608,611	YWMC74HC138N	IC	
R601	ERDS2TJ680	Carbon	68 ohms 1/4W
R602	ERDS2TJ151	Carbon	150 ohms 1/4W
R603	ERDS2TJ680	Carbon	68 ohms 1/4W
R604	ERDS2TJ151	Carbon	150 ohms 1/4W
R605	ERDS2TJ680	Carbon	68 ohms 1/4W
R606	ERDS2TJ151	Carbon	150 ohms 1/4W
R607	ERDS2TJ680	Carbon	68 ohms 1/4W
R608	ERDS2TJ151	Carbon	150 ohms 1/4W
R609	ERDS2TJ680	Carbon	68 ohms 1/4W
R610	ERDS2TJ151	Carbon	150 ohms 1/4W
R611	ERDS2TJ680	Carbon	68 ohms 1/4W
R612	ERDS2TJ151	Carbon	150 ohms 1/4W
R613	ERDS2TJ680	Carbon	68 ohms 1/4W
R614	ERDS2TJ151	Carbon	150 ohms 1/4W
R615	ERDS2TJ560	Carbon	56 ohms 1/4W
R616	ERDS2TJ390	Carbon	39 ohms 1/4W
R617	ERDS2TJ560	Carbon	56 ohms 1/4W
R618	ERDS2TJ470	Carbon	47 ohms 1/4W
R619	ERDS2TJ560	Carbon	56 ohms 1/4W
Z601	EXBF9E473J	Block Resistor	47K ohms
Z602	EXBF9E472J	Block Resistor	4.7K ohms
C611,612	ECEA1CKS101	Electrolytic	100 µF 16V
L601	YWBL01RN1A62	Coil	
SW601-664	EVQ21305R	Push Switch	
CN4,5	YW510481300	13-pin Connector	
E4,5	YWRDA7L04	Wire Assy for Fader Drive Board CN4,5	

REF. NO.	PART NO.	DESCRIPTION	
IC405-408	MC74HC541AF	IC	
IC409,412	MC74HC138AF	IC	
IC415-417	MC74HC14AF	IC	
R401	ERJ14YJ560H	Carbon	56 ohms 1/4W
R402	ERJ14YJ390H	Carbon	39 ohms 1/4W
R403	ERJ14YJ560H	Carbon	56 ohms 1/4W
R404	ERJ14YJ470	Carbon	47 ohms 1/4W
R405,406	ERJ14YJ560H	Carbon	56 ohms 1/4W
R407,408	ERJ14YJ470	Carbon	47 ohms 1/4W
R409-412	ERJ14YJ390H	Carbon	39 ohms 1/4W
R413-428	ERJ6GEYJ104	Carbon	100K ohms 1/16W
R429	ERJ14YJ560H	Carbon	56 ohms 1/4W
R430-433	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R434-441	ERJ6GEYJ473	Carbon	47K ohms 1/10W
VR401-407	EVQBBDFB220B	Variable Resistor	
VR408	EVQVB5F0124B	Variable Resistor	
Z403	EXBF9E472J	Block Resistor	4.7K ohms
Z404,405	EXBF9E473J	Block Resistor	47K ohms
C401-413	YF400104FZT	Ceramic	0.1 µF
C414-429	YF400103XKT	Ceramic	0.01 µF
C430,431	YF400104FZT	Ceramic	0.1 µF
C432,433	ECEA1CKS101	Electrolytic	100 µF 16V
C434	YF400103XKT	Ceramic	0.01 µF
L401	YWBLM21B03PB	Coil	
SW401-489	EVQ21305R	Push Switch	
CN6,7	YW510481300	13-pin Connector	
CN66	YW524921720	17-pin Connector	
E6,7	YWRDA7L04	Wire Ass'y for Fader Drive Board CN6,7	

EFX BOARD

PCB13 (RTL)	YWR00DA7KZ9A	Printed Circuit Board Assy
IC402,404	YWTD62783AFL	IC
IC410,411	YWTD62318AP	IC
IC413,414	YWTD62318AP	IC
D401-404	YWSLR325VRT	LED
D405-408	YWSPR325MVWT	LED
D409-413	YWSLR325DUT	LED
D414-418	YWSLR325VRT	LED
D419	YWSPR325MVWT	LED
D420-424	YWSLR325VRT	LED
D425-435	YWSLR325DUT	LED
D436-443	YWSLR325MGT	LED
D445-464	YWSLR325MGT	LED
D465-560	YW1SS133T77	Diode
IC401,403	MC74HC574AF	IC

POWER-1 BOARD

PCB14 (RTL)		YWR0DA7GKYAA	Printed Circuit Board Assy
VS1	⚠	ERZC14DK471	ZNR
C1	⚠	ECQU2A224MV	Plastic 0.22 µF
C3-5		ECKDRS332ME	Ceramic 3300 pF
L1	⚠	YW1R5A123F28	Coil
L2		YWV053	Coil
SW1	⚠	YWSDDFA3	Push Switch
CN2,62		YWB2P3VH	2-pin Connector
CN98	⚠	YWPWI1909	Connector
E1,2	⚠	S-N5057	Fuse Holder
E10		YWA2QA0134A4	Electrode
M73		YWA2SA4486A4	Mounting Angle

POWER-2 BOARD

REF. NO.	PART NO.	DESCRIPTION	
PCB15 (RTL)	YWR0DA7GKZBA	Printed Circuit Board Assy	
IC1	YWFA5304P	IC	
IC2	YWNJM2903D1	IC	
IC22,23	YWTA76431S	IC	
IC100	YWM51957BL	IC	
IC111	YWTA76431S	IC	
Q1 ⚠	2SK2675	FET	
Q2,3 ⚠	YWPC123FY2	Photo Coupler	
Q4	2SA1225Y	Transistor	
Q41	2SB943-PQ	Transistor	
Q42	2SC1815-Y	Transistor	
Q43	2SA1015-Y	Transistor	
Q44	2SD1268-PQ	Transistor	
Q45	2SD1276A-QR	Transistor	
Q46	2SB943-PQ	Transistor	
Q47	2SC1815-Y	Transistor	
Q100	2SC1740	Transistor	
Q111	2SB888AA	Transistor	
D1 ⚠	YWD3SB60	Diode	
D2,3	YWERB3710	Diode	
D4	YWERA9102	Diode	
D5	YWMTZJ30AT77	Diode	
D6	YWERB3710	Diode	
D21 ⚠	YWD20LC20U	Diode	
D23	YWMTZJ8R2C	Diode	
D24	YWMTZJ5.1CT77	Diode	
D25 ⚠	YWSF10SC6	Diode	
D26,27	YWERA9102	Diode	
D28,41	MA165	Diode	
D42	MA165	Diode	
D43	YWMTZJ5.1CT77	Diode	
D44	YWD4SBS6	Diode	
D45,46	YWMTZJ15BT77	Diode	
D47,48	MA165	Diode	
D49-52	YWAM01Z	Diode	
D53,54	YWMTZJ24CT77	Diode	
D55	YWD4SBS6	Diode	
D56	YWMTZJ5.1BT77	Diode	
D57	MA165	Diode	
D58	YWERA15-04V3	Diode	
R1 ⚠	ERC12ZGM105	Solid	1M ohms 1/2W
R2,3	ERF5TK1R5	Wire Wound	1.5 ohms 5W
R4,5	ERDS2TJ334	Carbon	330K ohms 1/4W
R6	ERG3SJ221	Metal	220 ohms 3W
R7	ERX3SJR22	Metal	0.22 ohm 3W

REF. NO.	PART NO.	DESCRIPTION	
R8	ERDS2TJ180	Carbon	18 ohms 1/4W
R9	ERG2SJ104	Metal	100K ohms 2W
R10	ERDS2TJ471	Carbon	470 ohms 1/4W
R11	ERDS2TJ105	Carbon	1M ohms 1/4W
R12,13	ERDS2TJ103	Carbon	10K ohms 1/4W
R14	ERDS2TJ102	Carbon	1K ohms 1/4W
R15,16	ERDS2TJ471	Carbon	470 ohms 1/4W
R17	ERDS2TJ241	Carbon	240 ohms 1/4W
R18	ERDS2TJ181	Carbon	180 ohms 1/4W
R19	ERDS2TJ273	Carbon	27K ohms 1/4W
R20 ⚠	ERC12ZGM156	Solid	15M ohms 1/2W
R21	ERDS2TJ100	Carbon	10 ohms 1/4W
R22	ERDS2TJ221	Carbon	220 ohms 1/4W
R23	ERG2SJ470	Metal	47 ohms 2W
R24	ERDS2TJ470	Carbon	47 ohms 1/4W
R25	ERDS2TJ182	Carbon	1.8K ohms 1/4W
R26	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R27	ER0S2CKF6801	Metal	6.8K ohms 1/4W
R28	ERDS2TJ561	Carbon	560 ohms 1/4W
R29	ER0S2CKF6801	Metal	6.8K ohms 1/4W
R30	ERDS2TJ471	Carbon	470 ohms 1/4W
R31	ERDS2TJ331	Carbon	330 ohms 1/4W
R32	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R33	ER0S2CKF1202	Metal	12K ohms 1/4W
R34	ERDS2TJ621	Carbon	620 ohms 1/4W
R35	ER0S2CKF6801	Metal	6.8K ohms 1/4W
R43	ERDS2TJ221	Carbon	220 ohms 1/4W
R44	ERDS2TJ104	Carbon	100K ohms 1/4W
R45	ERDS2TJ103	Carbon	10K ohms 1/4W
R46	ERDS2TJ821	Carbon	820 ohms 1/4W
R47	ERDS2TJ512	Carbon	5.1K ohms 1/4W
R48	ERDS2TJ821	Carbon	820 ohms 1/4W
R49	ERDS2TJ512	Carbon	5.1K ohms 1/4W
R50,51	ERDS2TJ152	Carbon	1.5K ohms 1/4W
R54 ⚠	ERQ12AJ4R7P	Fuse Resistor	4.7 ohms 1/2W
R55	ERDS2TJ104	Carbon	100K ohms 1/4W
R56	ERDS2TJ472	Carbon	4.7K ohms 1/4W
R57	ERDS2TJ103	Carbon	10K ohms 1/4W
R59	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R60	ERDS2TJ470	Carbon	47 ohms 1/4W
R61	ERDS2TJ181	Carbon	180 ohms 1/4W
R62	ERDS2TJ103	Carbon	10K ohms 1/4W
R63	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R64	ERDS2TJ112	Carbon	1.1K ohms 1/4W
R71	ERDS2TJ392	Carbon	3.9K ohms 1/4W
R72	ERDS2TJ112	Carbon	1.1K ohms 1/4W
R73	ERDS2TJ180	Carbon	18 ohms 1/4W
R74	ERDS2TJ103	Carbon	10K ohms 1/4W
R75	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R76	ERG2SJ220P	Metal	22 ohms 2W

REF. NO.		PART NO.	DESCRIPTION	
R100		ER0S2CKF8201	Metal	8.2K ohms 1/4W
R101		ER0S2CKF3301	Metal	3.3K ohms 1/4W
R102		ERDS2TJ222	Carbon	2.2K ohms 1/4W
R103		ER0S2CKF2201	Metal	2.2K ohms 1/4W
R104		ERDS2TJ242	Carbon	2.4K ohms 1/4W
C2,6	⚠	ECQU2A224MV	Plastic	0.22 µF 50V
C7,8		ECOS2EB681CB	Electrolytic	680 µF 250V
C9,10		ECKD3F331KB	Ceramic	330 pF
C11		ECQV1H224JZ	Plastic	0.22 µF 50V
C12		ECQP1H391JZ	Plastic	390 pF 50V
C13		ECQV1H104JZ	Plastic	0.1 µF 50V
C14		ECQB1H103JZ	Plastic	0.01 µF 50V
C15		EEUFC1V390B	Electrolytic	39 µF 35V
C16,17	⚠	ECKDRS332ME	Ceramic	3300 pF
C22,25		EEUFC1A222	Electrolytic	2200 µF 10V
C26-28		ECQV1H104JZ	Plastic	0.1 µF 50V
C41		ECQM1104KZ	Plastic	0.1 µF 50V
C42		ECQV1H224JZ	Plastic	0.22 µF 50V
C43		LPW1E682P1	Electrolytic	6800 µF 25V
C44		ECQV1H104JZ	Plastic	0.1 µF 50V
C45		LPW1E682P1	Electrolytic	6800 µF 25V
C46		ECQV1H104JZ	Plastic	0.1 µF 50V
C47-50		ECA1EHG331	Electrolytic	330 µF 25V
C51,52		ECQV1H104JZ	Plastic	0.1 µF 50V
C53		ECQM2104KZ	Plastic	0.1 µF 200V
C54		EC0S1KA102CA	Electrolytic	1000 µF 10V
C55		ECQM1103KZ	Plastic	0.01 µF 50V
C56,57		ECA1JHG331	Electrolytic	330 µF 63V
C58		ECQM1103KZ	Plastic	0.01 µF
C59		ECQV1H104JZ	Plastic	0.1 µF 50V
C60		ECOS1CA333EB	Electrolytic	33000 µF 16V
C61		ECQB1H103JZ	Plastic	0.01 µF 50V
C62		ECA1CHG101B	Electrolytic	100 µF 16V
C63		ECA1CHG331B	Electrolytic	330 µF 16V
C64		ECQV1H104JZ	Plastic	0.1 µF 50V
C65		ECOS1CA333EB	Electrolytic	33000 µF 16V
C70		ECA1CHG101B	Electrolytic	100 µF 16V
C100		ECA1EHG331B	Electrolytic	330 µF 25V
C101		ECQV1H104JZ	Plastic	0.1 µF 50V
L3	⚠	YWOR9A273F28	Coil	
L4	⚠	YFBL02RN2R62	Coil	
L21	⚠	YWMSSX12X8A	Coil	
L22		YFBL02RN2R62	Coil	
L23	⚠	YWTC1240	Coil	
L24	⚠	YFBL02RN2R62	Coil	
L25	⚠	YWTC1240	Coil	
L26,27		YFBL02RN2R62	Coil	
L100		YWZBF503S01	Coil	
RL1		YWA7X209	Relay	
T1	⚠	YWAPTA1027A4	Power Transformer	

REF. NO.		PART NO.	DESCRIPTION
CN36		YWB14BEH	14-pin Connector
CN52		YW510481300	13-pin Connector
CN53		YW510480700	7-pin Connector
T1	⚠	YWAPTA1027A4	Power Transformer
CN36		YWB14BEH	14-pin Connector
CN52		YW510481300	13-pin Connector
CN53		YW510480700	7-pin Connector
CN62		YWB2P3VH	2-pin Connector
CN63		YWB7PVH	7-pin Connector
CN64		YWB4BEH	4-pin Connector
CN65		YW510481400	14-pin Connector
CN99		YWB3BXHA	3-pin Connector
F1-3	⚠	YWSSFR6R3AF3	Current Fuse 6.3A
E1	⚠	YW851040	Fuse Insulator Cap
E52		YWRDA7L52	Wire Assy for AD/DA Board CN52
E53		YWRDA7L53	Wire Assy for AD/DA Baord CN53
E65		YWRDA7L65	Wire Assy for Fader Drive Board CN65
E10		YWA2QA0134A4	Electrode
M57		YWA7DA1075A4	Heat Sink
M58		YWA7DA1072A3	Heat Sink
M59		YWA2PA1131A4	Insulator
M60		YWPUG3630M	Heat Sink (x2)
M61	⚠	YWAC254	Insulator (x2)
M62	⚠	YWAC-256	Insulator
M63		YWPC303030PB	Heat Sink

ACCESSORY PARTS / PACKAGING PARTS

E103	⚠	YWKP610S75R	AC Power Cord for WR-DA7/B
		YWKP4819CE25	AC Power Cord for WR-DA7/G
M101	⚠	YWA8QA4842AN	Operating Instructions
M102		XZB26X40C05	Polyethylene Bag for WR-DA7/B
		YWPE26X40C05	Polyethylene Bag for WR-DA7/G
M103		YWT80X90X1	Polyethylene Bag for WR-DA7/B
		YWPE80X90X1A	Polyethylene Bag for WR-DA7/G
M105		YWA9CA3704BN	Packaging Assy for WR-DA7/B
		YWA9CA3716CN	Packaging Assy for WR-DA7/G
M106		YWV7SA2037A3	Label

REF. NO.	PART NO.	DESCRIPTION
WR-MTBR		
MISCELLANEOUS		
E101 ⚠	YW26CKIT08W	Power Cord
FB1	YWRDU07L01	Flexible Cable
M1	YWA5WA2366B1	Meter Decoration Panel
M2	YWA1VA0519A3	LED Cover
M3	YWA5WA2364A1	Meter Panel
M4	YWA6JA1120A3	Button
M5	YWA2KA1198A1	Meter Sub Chassis
M6	YWA5WA2365A1	Meter Rear Panel
M7	YWSR6N4	Cord Bushing
M8	YWA7QA4849A4	Main Label
METER BRIDGE BOARD-1		
PCB1 (RTL)	YWRDU07GKZ1A	Printed Circuit Board Assy
IC1	YWMC74HC367F	IC
IC2	YWTC7S04F	IC
IC3	YWM51957BFP	IC
IC4,5	YWT7C110F003	IC
IC6	YWTD62M8600FL	IC
IC7,8	YWTB62705BFL	IC
IC10	YWD78052G145	IC
IC11	YWTC7S08F	IC
IC12	YWTC7S04F	IC
IC13	MC74HC573AF	IC
IC14	YWTC7S04F	IC
Q1-5	FMG9AT148	Transistor
Q6,7	2SB766A-QR	Transistor
Q8	2SD874A-RS	Transistor
Q9	DTC114YKAT46	Transistor
Q10	DTA114YKAT46	Transistor
Q11,12	FMG9AT148	Transistor
D1,2	YWSML210VT86	LED
D3-8	YWSML210DT86	LED
D9-15	YWSML210MT86	LED
D16	YWSML210VT86	LED
D17	YWSML210VT86	LED
D18-23	YWSML210DT86	LED
D24-30	YWSML210MT86	LED

REF. NO.	PART NO.	DESCRIPTION	
D31,32	YWSML210VT86	LED	
D33-38	YWSML210DT86	LED	
D39-45	YWSML210MT86	LED	
D46,47	YWSML210VT86	LED	
D48-53	YWSML210DT86	LED	
D54-60	YWSML210MT86	LED	
D61,62	YWSML210VT86	LED	
D63-68	YWSML210DT86	LED	
D69-75	YWSML210MT86	LED	
D76,77	YWSML210VT86	LED	
D78-83	YWSML210DT86	LED	
D84-90	YWSML210MT86	LED	
D91,92	YWSML210VT86	LED	
D93-98	YWSML210DT86	LED	
D99-105	YWSML210MT86	LED	
D106,107	YWSML210VT86	LED	
D108-113	YWSML210DT86	LED	
D114-120	YWSML210MT86	LED	
D121,122	WSML210VT86	LED	
D123-128	YWSML210DT86	LED	
D129-135	YWSML210MT86	LED	
D136,137	YWSML210VT86	LED	
D138-142	YWSML210DT86	LED	
D144-150	YWSML210MT86	LED	
D151	YWSML210VT86	LED	
D152	YWSML210DT86	LED	
D153	YWSML210VT86	LED	
D154	YWSML210MT86	LED	
D155-158	YW1SS355	Diode	
D159-164	YWUDZ5.6B	Diode	
D165	YWUDZ6.2B	Diode	
R1	YWR1220P912D	Metal	9.2K ohms
R2	YWR1220P332D	Metal	3.3K ohms
R3	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R4-7	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R8-17	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R18,19	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R20	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R21	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R22	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R23	ERJ14YJ390H	Carbon	39 ohms 1/10W
R24	ERJ14YJ470	Carbon	47 ohms 1/10W
R25	ERJ14YJ560H	Carbon	56 ohms 1/10W
R26	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R27	ERJ6GEYJ680	Carbon	68 ohms 1/10W
R29,30	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R31-45	ERJ14YJ101	Carbon	100 ohms 1/10W
R46	ERDS2TJ102	Carbon	1K ohms 1/4W
Z1-21	EXBV8V223J	Block Resistor	
C1	YF400104FZT	Ceramic	0.1 µF

REF. NO.	PART NO.	DESCRIPTION	
C2	EEVHB1C470P	Electrolytic	47 µF 16V
C3	YF400104FZT	Ceramic	0.1 µF
C5	EEVHB1C220R	Electrolytic	22 µF 16V
C7	YF400104FZT	Ceramic	0.1 µF
C8,9	YF400103FZT	Ceramic	0.01 µF
C10-25	YF400104FZT	Ceramic	0.1 µF
C26,27	YW400102XK	Ceramic	1000 pF
C28,29	EXFP4102EFW	Ceramic	1000 pF
SW1-4	EVQPJS04K	Push Switch	
X1	YWCCR5R0MC3	Oscillator	
CF1-6	ELKE221FA	LC Filter	
CF7	ELKE103FA	LC Filter	
L11-14	YWBLM21A601T	LC Filter	
CN44	YWB13BPHSM3T	15-pin Connector	
CN77	YW528082690	26-pin Connector	

METER BRIDGE BOARD-2

PCB2 (RTL)	YWR0DU07KZ2A	Printed Circuit Board Assy
IC1,2	YWTD62M8600FL	IC
IC3,4	YWTB62705BFL	IC
Q1-8	FMG9AT148	Transistor
D1,2	YWSML210VT86	LED
D3-8	YWSML210DT86	LED
D9-15	YWSML210MT86	LED
D16,17	YWSML210VT86	LED
D18-23	YWSML210DT86	LED
D24-30	YWSML210MT86	LED
D31,32	YWSML210VT86	LED
D33-38	YWSML210DT86	LED
D39-45	YWSML210MT86	LED
D46,47	YWSML210VT86	LED
D48-53	YWSML210DT86	LED
D54-60	YWSML210MT86	LED
D61,62	YWSML210VT86	LED
D63-68	YWSML210DT86	LED
D69-75	YWSML210MT86	LED
D76,77	YWSML210VT86	LED
D78-83	YWSML210DT86	LED
D84-90	YWSML210MT86	LED
D91,92	YWSML210VT86	LED
D93-98	YWSML210DT86	LED
D99-105	YWSML210MT86	LED
D106,107	YWSML210VT86	LED
D108-113	YWSML210DT86	LED
D114-120	YWSML210MT86	LED
D121,122	YWSML210VT86	LED
D123-128	YWSML210DT86	LED

REF. NO.	PART NO.	DESCRIPTION	
D129-135	YWSML210MT86	LED	
D136,137	YWSML210VT86	LED	
D138-143	YWSML210DT86	LED	
D144-150	YWSML210MT86	LED	
D151,152	YWSML210VT86	LED	
D153-158	YWSML210DT86	LED	
D159-165	YWSML210MT86	LED	
D166,167	YWSML210VT86	LED	
D168-173	YWSML210DT86	LED	
D174-180	YWSML210MT86	LED	
D181,182	YWSML210VT86	LED	
D183-188	YWSML210DT86	LED	
D189-195	YWSML210MT86	LED	
D196,197	YWSML210VT86	LED	
D198-203	YWSML210DT86	LED	
D204-210	YWSML210MT86	LED	
D211,212	YWSML210VT86	LED	
D213-218	YWSML210DT86	LED	
D219-225	YWSML210MT86	LED	
D226,227	YWSML210VT86	LED	
D228-233	YWSML210DT86	LED	
D234-240	YWSML210MT86	LED	
R1-16	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R17	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R18	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R19-33	ERJ14YJ101	Carbon	100 ohms 1/10W
R100-212	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R213-230	ERJ8GCS0R00	Carbon	0 ohm 1/10W
R231-329	ERJ6GEY0R00	Carbon	0 ohm 1/10W
C1,2	YF400104FZT	Ceramic	0.1 µF
CN77	YW522072690	26-pin Connector	
E10	YWA2QA0134A4	Electrode (X4)	

ACCESSORY PARTS / PACKAGING PARTS

M11	⚠	YWA8QA4845AN	Operating Instructions
M12		YPE26X40C05A	Polyethylene Bag
M13		YWA2SA4492A3	Mounting Angle R
M14		YWA2SA4493A3	Mounting Angle L
M15		YWT12X15C03	Polyethylene Bag
M16		YWA8EB0109A4	Polyethylene Bag
M17		YWA9CA3713AN	Packaging Assy
M18		YWV7SA2037A3	Bar Cord Label

REF. NO.	PART NO.	DESCRIPTION	
WR-TNDM			
MISCELLANEOUS			
M1	YWA5WA2371A3	Panel	
M2	YWXM2Z0021	Special Screw	
M3	YWA7QE4852A4	Main Label	
MAIN BOARD			
IC1	MC74HC541AF	IC	
IC2	YWT6G22U1057	IC	
IC3	AM26LS32ACNS	IC	
IC4	YWT6G22U1057	IC	
IC5	YWSN75179BPS	IC	
IC6	YWTC7S04F	IC	
IC7	YWTC7W74FL	IC	
IC8	AM26LS31CNS	IC	
IC9	YWT74VHC541F	IC	
Q1	YWDTC114EK97	Transistor	
D21	YWUDZ5.1B	Diode	
R1	ERJ6GEYJ103	Metal	10K ohms 1/10W
R8	ERJ6GEYJ681	Metal	680 ohms 1/10W
R9	ERJ14YJ111	Metal	110 ohms 1/14W
R10,11	ERJ6GEYJ681	Metal	680 ohms 1/10W
R12	ERJ14YJ111	Metal	110 ohms 1/14W
R13,14	ERJ6GEYJ681	Metal	680 ohms 1/10W
R15	ERJ14YJ111	Metal	110 ohms 1/14W
R16,17	ERJ6GEYJ681	Metal	680 ohms 1/10W
R18	ERJ14YJ111	Metal	110 ohms 1/14W
R19,20	ERJ6GEYJ681	Metal	680 ohms 1/10W
R21	ERJ14YJ111	Metal	110 ohms 1/14W
R22	ERJ6GEYJ681	Metal	680 ohms 1/10W
R23-32	YF2116100JT	Metal	10 ohms 1/10W
R33	ERJ6GEYJ223	Metal	22K ohms 1/10W
R34	ERJ6GEYJ103	Metal	10K ohms 1/10W
C1,2	YF400104FZT	Ceramic	0.1 µF
C3	EEVHB1C470P	Electrolytic	47 µF 16V
C4-20	YF400104FZT	Ceramic	0.1 µF
C21-24	YF400470CHJT	Ceramic	47 pF
C25	YF400104FZT	Ceramic	0.1 µF
C26-29	YF400470CHJT	Ceramic	47 pF
C30	YF400104FZT	Ceramic	0.1 µF
C31-34	YF400470CHJT	Ceramic	47 pF
C35	YF400104FZT	Ceramic	0.1 µF
C36-39	YF400470CHJT	Ceramic	47 pF
C40	YF400104FZT	Ceramic	0.1 µF
C41-44	YF400470CHJT	Ceramic	47 pF
C45	YF400104FZT	Ceramic	0.1 µF
C46-49	YF400470CHJT	Ceramic	47 pF
C50	YF400104FZT	Ceramic	0.1 µF
C51-54	YF400470CHJT	Ceramic	47 pF
C55	YF400104FZT	Ceramic	0.1 µF
C56-59	YF400470CHJT	Ceramic	47 pF
C60	YF400104FZT	Ceramic	0.1 µF
C61-64	YF400470CHJT	Ceramic	47 pF
C65	YF400104FZT	Ceramic	0.1 µF
C66-69	YF400470CHJT	Ceramic	47 pF
C70-72	YF400103XKT	Ceramic	0.01 µF
C73,74	YF400470CHJT	Ceramic	47 pF
C75	YF400104FZT	Ceramic	0.1 µF
L1	YWZBF503S01	Coil	
L2-23	YWBLM21B03PB	Coil	
SW1	YWSSSS92057A	Slide Switch	
CN1	YWXC5A64421A	64-pin Connector	
CN2	XM3B2522502	25-pin Connector	
ACCESSORY PARTS / PACKAGING PARTS			
M11 ⚠	YWA8QA4857AN	Operating Instructions	
M12	YWA8EA0079A4	Polyethylene Bag	
M13	YWA9CS3714AN	Packaging Assy	
M14	YWV7SA2037A3	Bar Cord Label	
WR-TDIF			
MISCELLANEOUS			
M1	YWA5WA2368A3	TDIF Card Panel	
M2	YWXM2Z0021	Special Screw	
M3	YWA7QB4852A4	Main Label	

REF. NO.	PART NO.	DESCRIPTION	
MAIN BOARD			
IC1	MC74HC240AF	IC	
IC2	MC74HC540AF	IC	
IC3	MC74HC4046AF	IC	
IC4	MC74HC14AF	IC	
IC5	HD74HC123AF	IC	
IC6	YWACSA0506BN	Custom IC	
IC7,8	YWT6G22U1057	IC	
IC9	MC74HC541AF	IC	
IC10,11	YWT74VHC541F	IC	
IC12	YWT74VHC245F	IC	
D1-17	DA204K-T46	Diode	
R2	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R8	ERJ6GEYJ113	Carbon	11K ohms 1/10W
R9	ERJ6GEYJ133	Carbon	13K ohms 1/10W
R10	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R11	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R14	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R17	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R18	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R19,20	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R23,26	ERJ6GEYJ103	Carbon	10K ohms 1/10W
Z1	EXBV8V470J	Block Resistor	
Z2	EXBV8V471J	Block Resistor	
Z3,4	EXBV8V472J	Block Resistor	
Z5-8	EXBV8V222J	Block Resistor	
C1-32	YF400470CHJT	Ceramic	47 pF
C33-36	YF400104FZT	Ceramic	0.1 µF
C37	YF400510CHJT	Ceramic	51 pF
C38	ECHU1C823JB5	Plastic	0.082 µF 16V
C39	YW400222CHJ	Ceramic	2200 pF
C40	YF400103XKT	Ceramic	0.01 µF
C41-58	YF400104FZT	Ceramic	0.1 µF
C59	ECEV1CA101	Electrolytic	100 µF 16V
C60-62	YF400104FZT	Ceramic	0.1 µF
C63	YF400103FZT	Ceramic	0.01 µF
C66	ECHU1H153JB5	Plastic	0.015 µF 50V
L1-18	YWBLM21B03PB	Coil	
SW2	YWSMS502	Dip Switch	
CN1	YWXC5A64421A	64-pin Connector	
CN2	XM3B2522502	25-pin Connector	
ACCESSORY PARTS / PACKAGING PARTS			
M11 ⚠	YWA8QA4857AN	Operating Instructions	
M12	YWA8EA0079A4	Polyethylen Bag	
M13	YWA9CQ3714AN	Packaging Assy	
M14	YWV7SA2037A3	Bar Code Label	

REF. NO.	PART NO.	DESCRIPTION	
WR-SMPT			
MISCELLANEOUS			
M1	YWA5WA2372A3	Panel	
M2	YWA7QF4852A4	Main Label	
MAIN BOARD			
IC1	MC74HC245AF	IC	
IC2	MC74HC541AF	IC	
IC3	YWPD65636055	IC	
IC4	YWTC7W04FL	IC	
IC5	YWMC74HC160F	IC	
IC6	YWTC7W74FL	IC	
IC7	YFNJM311M	IC	
IC8	YWNJM082M	IC	
IC10	YWHD74HC221F	IC	
IC11	YWLM1881M	IC	
IC12	MC74HC4046AF	IC	
IC13	NJM2903M	IC	
IC14	MC74HC4046AF	IC	
IC15	NJM2903MT31	IC	
IC16	YWACSA0503AN	CustomIC	
Q1	DTC144EK	Transistor	
Q3	2SA1532-CD	Transistor	
Q4	2SC3930-BC	Transistor	
Q5	DTC144EK	Transistor	
Q6	DTC144EK	Transistor	
D1	YWDA204K	Diode	
R1	ERJ6GEYJ472	Metal	4.7K ohms 1/10W
R2	ERJ6GEYJ223	Metal	22K ohms 1/10W
R3	YFR1220P222D	Metal	2.2K ohms
R4	YWR1220P824D	Metal	820K ohms 1/10W
R5,6	YWR1220P103D	Metal	10K ohms 1/10W
R7	YWR1220P684D	Metal	680K ohms
R8	YWR1220P563D	Metal	56K ohms
R9	YWR1220P204D	Metal	200K ohms
R11	YWR1220P204D	Metal	200K ohms
R12	ERJ6GEYJ101	Metal	100 ohms 1/10W
R13	ERJ6GEYJ103	Metal	10K ohms 1/10W
R14	ERJ6GEYJ184V	Metal	180K ohms 1/10W
R15	ERJ6GEYJ224	Metal	220K ohms 1/10W
R16	ERJ6GEYJ684	Metal	680K ohms 1/10W
R17	YWR1220P181D	Metal	180 ohms
R18	YWR1220P221D	Metal	220 ohms
R19	YWR1220P272D	Metal	2.7K ohms
R20	YWR1220P361D	Metal	360 ohms
R21	YWR1220P221D	Metal	220 ohms

REF. NO.	PART NO.	DESCRIPTION	
R22	YWR1220P202D	Metal	2K ohms
R23	ERJ6GEYJ750	Metal	75 ohms 1/10W
R24	YWR1220P472D	Metal	4.7K ohms
R25	YFR1220P113D	Metal	11K ohms
R26	R1220P133D	Metal	13K ohms
R27	YWR1220P273D	Metal	27K ohms
R28	ERJ6GEYJ273	Metal	27K ohms 1/10W
R30	ERJ6GEYJ562	Metal	5.6K ohms 1/10W
R31	ERJ6GEYJ472	Metal	4.7K ohms 1/10W
R32	ERJ6GEYJ122	Metal	1.2K ohms 1/10W
R35	ERJ6GEYJ103	Metal	10K ohms 1/10W
R36	YWR1220P472D	Metal	4.7K ohms
R37	YWR1220P103D	Metal	10K ohms
R38	YFR1220P392D	Metal	3.9K ohms
R39	YWR1220P273D	Metal	27K ohms
R40	ERJ6GEYJ273	Metal	27K ohms 1/10W
R42	ERJ6GEYJ562	Metal	5.6K ohms 1/10W
R43	ERJ6GEYJ472	Metal	4.7K ohms 1/10W
R44	ERJ6GEYJ122	Metal	1.2K ohms 1/10W
R47	ERJ6GEYJ103	Metal	10K ohms 1/10W
R48,49	ERJ6GEYJ472	Metal	4.7K ohms 1/10W
R53	ERJ6GEYJ101	Metal	100 ohms 1/10W
R54	ERJ6GEYJ561	Metal	560 ohms 1/10W
R55	ERJ6GEYJ101	Metal	100 ohms 1/10W
Z1,2	EXBV8V223J	Block Resistor	
Z3-6	EXBV8V472J	Block Resistor	
C1-6	YF400104FZT	Ceramic	0.1 µF
C7	EEVHA1C221P	Electrolytic	220 µF 16V
C9-11	YF400104FZT	Ceramic	0.1 µF
C12	YF400103FZT	Ceramic	0.01 µF
C13,14	YF400104FZT	Ceramic	0.1 µF
C15	EEVHB1H4R7R	Electrolytic	4.7 µF 50V
C16	YF400104FZT	Ceramic	0.1 µF
C17	YW400010CHC	Ceramic	1 pF
C18,19	YF400104FZT	Ceramic	0.1 µF
C21	EEVHB1H100P	Electrolytic	10 µF 50V
C22,23	YF400470CHJT	Ceramic	47 pF
C24,25	YF400221CHJT	Ceramic	220 pF
C26-28	YF400104FZT	Ceramic	0.1 µF
C30,31	YF400104FZT	Ceramic	0.1 µF
C32	ECEV1AA330NP	Electrolytic	33 µF 10V
C33,34	YF400470CHJT	Ceramic	47 pF
C35-37	YF400104FZT	Ceramic	0.1 µF
C39	ECHU1C153JB5	Plastic	0.015 µF
C40	ECHU1C823JB5	Plastic	0.082 µF
C41	YF400510CHJT	Ceramic	51 pF
C42,44	YF400104FZT	Ceramic	0.1 µF
C45	ECHU1C153JB5	Plastic	0.015 µF 16V
C46	ECHU1C823JB5	Plastic	0.082 µF 16V
C47	YF400510CHJT	Ceramic	51 pF

REF. NO.	PART NO.	DESCRIPTION	
C48,49	YF400104FZT	Ceramic	0.1 µF
C51	YF400104FZT	Ceramic	0.1 µF
L1-6	YWBLM21B03PB	Coil	
L8	YWBLM21B03PB	Coil	
CN2	YWNC3FAH10	Connector	
CN3	YWP2201A	BNC Connector	
CN51	YW528523090	30-pin Connector	

ACCESSORY PARTS / PACKAGING PARTS

M11	⚠	YWA8QA4857AN	Operating Instructions
M12		YWA8EA0079A4	Polyethylene Bag
M13		YWA9CC3741AN	Packaging Assy
M14		YWV7SA2037A3	Bar Cord Label

WR-AESS

MISCELLANEOUS

M1	YWA5WA2369A3	AES/EBU Card Panel
M2	YWXM2Z0021	Special Screw
M3	YWA7QC4852A4	Main Label

MAIN BOARD

IC2	YWT74VHC541F	IC
IC3	YWT74VHC245F	IC
IC4	YWT74VHC541F	IC
IC6	YWT6G22U1057	IC
IC7	YWTC74ACT04AF	IC
IC8	YWTC7W74FL	IC
IC9,10	MC74HCT244AF	IC
IC11	MC74HC125AF	IC
IC13	MC74HC273AF	IC
IC15,16	YWTC9271FELP	LSI
IC19	YWCS8412CS	CustomIC
IC21	MC74HC125AF	IC
IC22-24	YWCS8412CS	CustomIC
IC25	AM26LS31CNS	IC
IC26	MC74HC541AF	IC

REF. NO.	PART NO.	DESCRIPTION	
IC30	ACSA0501AN	CustomIC	
R1	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R2-5	ERJ14YJ111	Carbon	110 ohms 1/10W
R6	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R7	ERJ6GEYJ820	Carbon	82 ohms 1/10W
R8	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R9	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R10,11	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R12	ERJ6GEYJ820	Carbon	82 ohms 1/10W
R13	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R14	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R15,16	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R17	ERJ6GEYJ820	Carbon	82 ohms 1/10W
R18	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R19	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R20,21	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R22	ERJ6GEYJ820	Carbon	82 ohms 1/10W
R23	ERJ6GEYJ470	Carbon	47 ohms 1/10W
R24	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R25	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R28-32	ERJ6GEYJ103	Carbon	10K ohms 1/10W
Z5,6	EXBV8V223J	Block Resistor	
C1,2	YF400104FZT	Ceramic	0.1 µF
C3	EEVHB1H1R0R	Electrolytic	1 µF 50V
C5-13	YF400104FZT	Ceramic	0.1 µF
C16,18	YF400104FZT	Ceramic	0.1 µF
C19,22	YF400104FZT	Ceramic	0.1 µF
C23	YF400104FZT	Ceramic	0.1 µF
C24	YW400473XK	Ceramic	0.047 µF
C25	YF400104FZT	Ceramic	0.1 µF
C27,28	YF400104FZT	Ceramic	0.1 µF
C29-32	YF400470CHJT	Ceramic	47 pF
C33-35	YF400104FZT	Ceramic	0.1 µF
C36	YW400473XK	Ceramic	0.047 µF
C37	YF400104FZT	Ceramic	0.1 µF
C39,40	YF400104FZT	Ceramic	0.1 µF
C41-44	YF400470CHJT	Ceramic	47 pF
C45,46	YF400104FZT	Ceramic	0.1 µF
C47	YW400473XK	Ceramic	0.047 µF
C48	YF400104FZT	Ceramic	0.1 µF
C50,51	YF400104FZT	Ceramic	0.1 µF
C52-55	YF400470CHJT	Ceramic	47 pF
C56,57	YF400104FZT	Ceramic	0.1 µF
C58	YW400473XK	Ceramic	0.047 µF
C59	YF400104FZT	Ceramic	0.1 µF
C61,62	YF400104FZT	Ceramic	0.1 µF
C63-66	YF400470CHJT	Ceramic	47 pF
C67-70	YF400104FZT	Ceramic	0.1 µF
C71-74	YF400470CHJT	Ceramic	47 pF
C75-77	YF400104FZT	Ceramic	0.1 µF

REF. NO.	PART NO.	DESCRIPTION	
C78-81	YF400470CHJT	Ceramic	47 pF
C82,83	YF400104FZT	Ceramic	0.1 µF
C84	YF400104FZT	Ceramic	0.1 µF
C85-88	YF400470CHJT	Ceramic	47 pF
C89-91	YF400104FZT	Ceramic	0.1 µF
C92-95	YF400470CHJT	Ceramic	47 pF
C96	YF400104FZT	Ceramic	0.1 µF
C99-103	YF400104FZT	Ceramic	0.1 µF
L1	YWZBF503S01	Coil	
L2-21	YWBLM21B03PB	Coil	
T1-8	YWPT1099	High Freq Transformer	
SW1-4	SSSS92A58A	Slide Switch	
CN1	XC5A64821A	64-pin Connector	
CN2	XM3B2522502	25-pin Connector	

ACCESSORY PARTS / PACKAGING PARTS

M11 ⚠	YWA8QA4857AN	Operating Instructions
M12	YWA8EA0079A4	Polyethylene Bag
M13	YWA9CR3714AN	Packaging Assy
M14	YWV7SA2037A3	Bar Cord Label

WR-ADAT

MISCELLANEOUS

M1	YWA5WA2367A3	ADAT Card Panel
M2	YWA7QA4852A4	Main Label

MAIN BOARD

IC2	ACSA0504AN	Custom IC
IC3	MC74HC4046AF	IC
IC4	MC74HC14AF	IC
IC5	HD74HC123AF	IC
IC6	ACSA0505AN	Custom IC
IC7,8	YWT6G22U1057	IC
IC9	MC74HC541AF	IC
IC10,11	YWT74VHC541F	IC
IC12	YWT74VHC245F	IC
IC14	TC74HCU04AF	IC

REF. NO.	PART NO.	DESCRIPTION	
R8	ERJ6GEYJ113V	Carbon	11K ohms 1/10W
R9	ERJ6GEYJ133	Carbon	13K ohms 1/10W
R10	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R11	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R14	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R17	ERJ6GEYJ272	Carbon	2.7K ohms 1/10W
R18	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R19,20	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R23-25	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R26	ERJ6GEYJ105	Carbon	1M ohms 1/10W
Z1,2	EXBV8V222J	Block Resistor	
C35,36	YF400104FZT	Ceramic	0.1 µF
C37	YF400510CHJT	Ceramic	51 pF
C38	ECHU1C823JB5	Plastic	0.082 µF 16V
C39	YW400222CHJ	Ceramic	2200 pF
C40	YF400103XKT	Ceramic	0.01 µF
C41-58	YF400104FZT	Ceramic	0.1 µF
C59	ECEV1CA101R	Electrolytic	100 µF 16V
C60-64	YF400104FZT	Ceramic	0.1 µF
C65	YF400103FZT	Ceramic	0.01 µF
C66,67	YF400104FZT	Ceramic	0.1 µF
C68	ECHU1H153JB5	Plastic	0.015 µF 50V
L17-19	YWBLM21B03PB	Coil	
X1	CSTCS122MT	Crystal Oscillator	
CN1	YWXC5A64421A	64-pin Connector	
JK1	YWGP1F32T	Jack	
JK13	YWGP1F37R	Jack	
E1	YWXM2Z0021	Compsite Assy	

ACCESSORY PARTS / PACKAGING PARTS

M11	⚠	YWA8QA4857AN	Operating Instructions
M12		YWA8EA0079A4	Polyethylen Bag
M13		YWA9CP3714AN	Packaging Assy
M14		YWV7SA2037A3	Bar Code Label

REF. NO.	PART NO.	DESCRIPTION

Printed in Japan
C-676 Ⓝ 5, 7, 23